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Report on two college preparatory television summer courses which were noncredit and covered essentials from university's remedial English and mathematics courses. Courses involved coordinated reading assignments and exercises, and provided opportunity for personal conferences with instructors. Report covers preparation for project (promotion, study materials, enrollments), presentation of courses, evaluations, and costs.

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FINAL REPORT
ON THE
1958 SUMMER TELEVISION PROJECT

College-preparatory
English
and
Mathematics

The Chicago Undergraduate Division
of the
University of Illinois

ED000318

INTRODUCTION

The Chicago Undergraduate Division of the University of Illinois presented two college-preparatory television courses over Channel 11, WTTW, Chicago's educational television station, during the summer of 1958. These non-credit courses in English and mathematics were designed primarily to give recent high-school graduates aid-in-advance on college course work and placement tests. In general, the two television courses covered essentials from the University's remedial courses in English and mathematics.

A total of 731 students were enrolled officially in the English course; 622 students were enrolled in mathematics. While the majority of these were planning to enter college in the fall, a considerable segment of the student body enrolled solely for purposes of self-improvement.

The course of study in each subject-matter area involved 33 half hours of television classes with co-ordinated reading assignments and exercises to be worked and graded at home. A pre-test and post-test taken at home and graded by the University gave students and project personnel an opportunity to evaluate progress made during the course. Students were also given an opportunity for personal conferences with instructors through phone conversations or face-to-face interviews.

An enrollment fee of $5.00 per course covered the cost of study and testing materials.

A report of this project appears on the following pages. Since this was, in many respects, a pioneer effort, we have presented in considerable detail the kinds of thinking which went into its initial planning, the procedures used in promoting the courses, in preparing study materials, in enrolling students, and in preparing the subject matter for television broadcast. We have also attempted to evaluate our efforts in each case and to suggest where and how improvements might be made.

In addition, we have incorporated into this report results from our testing program and from a questionnaire survey of student response to the courses. We have presented available data about the make-up of our student body, and we have given information about the costs of the project.

In two appendices, we have given a breakdown of the clerical operations involved in the courses and have offered detailed reports of the project from the personal standpoints of the two television instructors taking part.

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I

EARLY HISTORY

The proposal that the Chicago Undergraduate Division offer television courses during the summer of 1958 was made originally to Dr. Wayne N. Thompson, Chairman of the Division's Radio and Television Committee, by Dr. John Taylor, Executive Director of Channel 11, WTTW, during a telephone conversation late in November, 1957.

Dr. Thompson discussed the matter with Dean Bailey who, in turn, took it up with Dean Dangerfield. It was Dean Dangerfield's suggestion that the Division's Radio and Television Committee study the problem and make a recommendation through channels to the Chicago Undergraduate Division Senate for a policy decision.

The Radio and Television Committee met in a special session December 10, to consider the matter. At that time, it was moved, seconded, and approved unanimously that the Committee advise the Executive Dean to recommend to the Senate that it adopt a policy to allow the Division to give courses on television for credit or non-credit, subject to the approval of the Associate Dean holding jurisdiction over the courses being offered.

During the meeting, it was also determined that Mr. Alfred E. Partridge, Chicago Supervisor of Radio and Television for the University, should act as a liaison person with WTTW in determining details of an agreement which might be made between the University and the television station.

Considerable discussion occurred at this session regarding the level of courses which might be offered and whether courses should be given for credit or non-credit. General feeling was that courses to be offered should be either non-credit or very elementary credit courses. Later study by individuals planning for the project determined that credit courses on television were beyond the immediate reach of the Division in terms of time, personnel, and budget. In addition they would, in a sense, duplicate the Chicago City Junior College's television courses offered during the school year.

The Chicago Undergraduate Division Senate took up the question of television courses during its session of February 20, 1958. The Senate adopted a policy which would grant the Radio and Television Committee authority to give credit or non-credit courses over television, subject to the approval of the Associate Dean holding jurisdiction over the course or courses to be offered and subject to the approval of the Senate.

At the Senate meeting of February 26, Dean Bailey presented a proposal to offer two courses (College-preparatory English and College-preparatory Mathematics) over WTTW during the Summer of 1958. The proposal indicated that, for each course, there would be three thirty-minute presentations per week for eleven weeks, June 16 through August 28. Content would include selected topics in Rhetoric, material usually included in Rhetoric 100, and selected topics in elementary and intermediate algebra usually included in Mathematics 103. Members of the regular staff would do the teaching. There would be no credit. The courses would be designed for any student planning to enter a college in the fall or for any other interested person. The proposed courses would be scheduled on Mondays, Wednesdays, and Thursdays. Each instructor would keep one two-hour office hour per week, in the Loop if possible, for individual consultation.

Dean Bailey's proposal stated that a packet containing instructions, pre-test, course syllabus, and end-of-course test would be furnished for a fee of perhaps $1.00. The text could be purchased at any bookstore. The student would write for the packet, enclosing the materials fee. This would constitute registration. He would then take the self-scoring pre-test and send it in. At the end of the course, he would take the self-scoring end-of-course test and send it in. The Senate unanimously approved the proposal.

Personnel

Television teaching candidates for the two courses were selected by the Associate Dean of the Liberal Arts College in consultation with the division heads in Humanities and Mathematics and Mr. Alfred E. Partridge.

Dr. Falk S. Johnson, Assistant Professor of English, was selected to teach the English course. Mr. Kenneth H. Murphy, Assistant Professor of Mathematics, was chosen as the television instructor in mathematics. Television instructors were given a reduction in their second-semester teaching loads to allow them time to prepare their course presentations. Their work on their television classes during the summer was considered as a full-time summer-session teaching program.

No official designation of a project director was made. Organization of the project was informal. Dean Harold E. Temmer was instrumental in planning the promotional campaign, in setting policy on enrollment procedures and on study packages and their distribution, in clearing channels for rapid execution of publishing projects, and in establishing contacts with interested outside organizations. Dean Harold W. Bailey established policy and settled questions in the academic areas. Mr. Alfred E. Partridge acted as liaison person in making initial arrangements with WTTW. He was also instrumental in establishing broadcast policy and in the early orientation of instructors with regard to the problems they would face in working in a new medium.

Mr. Partridge assigned Miss Barbara Jipson, Television Writer-Producer for the University, to full-time duty on the project in all its aspects, beginning April 1, 1958. Dean Bailey guaranteed one month's salary for a temporary clerical person beginning May 1. Mrs. Marjorie Corty, formerly with the University in several other capacities, took this position. For reasons which will become apparent generally throughout the remainder of this report and specifically in the attached clerical appendix, Mrs. Corty's stay was extended on a salaried basis through August 15 and, on a part-time hourly basis thereafter, through October 31, 1958. Miss Jipson and Mrs. Corty formed the unit hereafter termed the summer television office.

Allotment of Funds

Allotments from University funds at the beginning of the project were as follows:

$1,000.00	was allocated from the contingent fund of the Chicago Undergraduate Division Dean's office.
$1,000.00	came from Provost Assignment. Of this amount, $500.00 was drawn from the budget of the Broadcasting Department in Chicago.

Beyond this, it was assumed that the Broadcasting Department budget would be used in the purchase of visual aids and art supplies and in paying of all actual television production costs. The Broadcasting Department also continued to pay Miss Jipson's salary throughout the nine-month period she was employed on this project.

II
PREPARATION

Promotion

What Was Done

Preparation for an intensive publicity campaign was begun early in April. Mid-May was the time set for releasing information about the program to the public.

Underlying the promotional campaign was the assumption that the potential audience for the courses existed in two groups. (1) graduating high-school seniors -- this fall's college freshmen, (2) that portion of the general population interested in self-improvement.

The primary effort to reach the first group was made through the high schools. One-thousand posters for school bulletin boards and 30,000 brochures aimed directly at individual students were prepared. The posters gave basic facts about the courses. The brochures offered more detailed information about the program and included a mail-back enrollment blank. In these promotional pieces -- and in all other publicity directed at students -- care was taken to keep the emphasis upon the student's getting a "running start" on college work rather than upon his reviewing materials already studied in high school. This was done primarily so that secondary-school educators would not feel the University was in any way accusing them of not doing a finished job of educating at their level.

Writing and editorial work on the posters and brochures were handled by the summer television office. Art work, typesetting, and printing were prepared by outside organizations.

A list of 231 public and private high schools within WTTW's 60-mile broadcast range together with the number of graduating seniors in each was obtained from the State Superintendent of Public Instruction.

Three separate mailings were sent to each high school:

1. The principal of each school was sent a packet. It contained a sample brochure, a news release for the school paper, and a letter announcing the course, informing the principal he would receive a bulk package of brochures and posters, and requesting that he place these in the hands of the placement or class counselor for distribution to interested high-school seniors. This mailing was handled by the summer television office.

2. A letter and accompanying brochure were mailed to each school's counseling department. The letter requested help in getting brochures to interested students and in generally informing the student body of the program. This mailing was handled by the summer television office.

3. A bulk package containing two posters and a sufficient number of brochures for distribution to half the graduating class was sent to each principal's office via United Parcel Service. A total of 462 posters and approximately 22,000 brochures were distributed in this way. Packaging of these was handled by the printer. Mailing labels which listed numbers of brochures for each package were prepared by the summer television office.

A second effort to reach the student group was made through the colleges in the Chicago area:

1. Our own admissions office and the summer television office collaborated in sending brochures to 1,200 potential Chicago Undergraduate Division students.

2. Several hundred brochures were distributed by the Student Counseling Office of the Chicago Undergraduate Division. This was accomplished by placing brochures on a literature table where interested students might take copies and by distributing them in individual pre-admissions counseling sessions to students whom counselors felt might profit from the courses.

3. Admissions officers and top administrative personnel in approximately 30 Chicago-area colleges were sent letters and sample brochures informing them of the project and asking them if they would care to distribute brochures to their prospective freshmen. Twelve colleges requested and were sent brochures for distribution. Numbers of brochures requested by these institutions ranged from 25 to 400.

Reaching a wider audience than the specialized student group seemed important for two reasons: (1) informed parents might aid in getting students to enroll; (2) an auxiliary, self-help group might be recruited from the general public. With these objectives in mind, the following steps were taken:

1. Silk-screen posters, 26x40 inches, were displayed at downtown subway platforms on the State Street lines. Placement of these posters was made through the Chicago Car Advertising Company. Our contract called for a total of 26 posters to be displayed and for these to be placed at alternate subway stops.

   In an effort to economize, the original art used for the student bulletin-board posters was modified for use in the manufacture of the subway posters. The summer television office modified copy to fit. In addition, a change of color was made. The second color on the bulletin-board posters had been old gold. The subway posters were produced in bright red.

2. News releases were sent to four metropolitan dailies and approximately 100 community newspapers. The release was composed by the University's Public Information Office and mailed by the summer television office. Copies of the brochure accompanied each release.

3. Spot one-minute announcements about the courses were made over WTTW for a period of two-and-one-half weeks prior to the first broadcast. Art work and copy for these announcements were prepared by WTTW personnel using information supplied by the summer television office.

4. The University's Public Information Office placed a series of three English quizzes in TV Preview, the Chicago Sun-Times' weekly television magazine. These quizzes, composed by Mrs. Falk S. Johnson at no cost to the University, were correlated with course subject matter, and each was accompanied by a paragraph giving information about the course.

Publication occurred during the period when classes were actually being broadcast. An effort was made to interest the newspaper in a similar series of mathematics quizzes, but the paper's editorial staff felt the subject matter would be too difficult for its reading public.

5. Both Dr. Johnson's and Mr. Murphy's home-community newspapers were sent special news stories, each pointing up the fact that a community resident would act as an instructor of the University's television courses. These stories were prepared and placed by the University's Public Information Office which also sent out releases during the time of actual broadcast about two guests on the English programs and about an unusual audience response.

6. Informal announcement of the courses was made at the annual joint meeting of the Chicago Men's Mathematics Club and the Chicago Women's Mathematics Club as well as at several conferences which the University sponsored for secondary school educators.

An Evaluation of Promotional Activities

Questionnaire results lead us to believe that the majority of our enrolled students learned about the College-preparatory courses through the following four sources:

1. Their high schools;
2. Announcements over WTTW, Channel 11;
3. The colleges in the Chicago area;
4. Metropolitan daily newspapers.

Therefore, with an eye toward possible similar operations in the future, we ask how promotional activities through these four media might be further strengthened.

1. In our approach to the high schools an earlier solidification of plans would make it possible to notify school officials of our intention by letter earlier in the school year. This would allow for a considerable amount of word-of-mouth publicity from high-school faculty to student earlier in the year so that ground would be prepared for a brochure and poster campaign in late spring. Although high-school seniors may no longer be enrolled in compulsory mathematics and English courses and therefore may have little contact with faculty, it would still seem advisable to make more effort to get course publicity to high-school English and mathematics teachers. Some of this information might be supplied via direct mail. Also an effort might be made to get information about the courses to the specialized professional teaching associations involved. It also seems likely that an effort to publicize the project through parent-teacher associations might prove profitable since students' interest in the courses might be augmented by the interest of their parents.

   In looking backward it seems likely that the colors used on brochures and posters sent to the schools might have been chosen to have greater appeal and motivational effect. It is doubtful that any motivational research organization would have approved the old-gold, black, and white color schemes used on these pieces -- particularly for distribution to a student audience.

2. All distribution of brochures through other colleges and universities came as a result of a highly voluntary response from college administrators to a letter asking if they would be interested in making such a distribution. Less than 1,000 brochures were sent to other colleges. The University of Illinois sent out perhaps 1,500 to its prospective students. Yet questionnaire results seem to indicate that a sizeable proportion of our officially enrolled students learned of the courses through the colleges they planned to attend. If future projects of this type are carried out, every effort should be made to inform college admissions and counseling offices of this project. Here again, direct mail augmented by contacts with such professional organizations as Illinois Association of Collegiate Registrars and Admissions Officers and the Chicago Personnel and Guidance Association might be the best approach. It might also be possible to make contact with a number of colleges which are outside the Chicago area but which have high percentages of Chicago-area students and to offer them brochures for distribution to such students.

3. An expenditure of University funds to augment WTTW's art budget for spot announcements might be helpful.

4. A planned press conference might give greater impetus to our getting effective newspaper coverage.

   The University might also consider display advertising in daily metropolitan newspapers if costs or policy are not prohibitive.

Next, we consider some of the areas in which our promotion proved less effective, ask why, and suggest what might be done to make improvements:

1. A very low response resulted from our subway posters. Before assuming, however, that this was totally the result of a poor medium, another factor ought to be considered: the poster was not originally designed for subway display and even in modified form had limitations in terms of art work, type size, and effective information area which may have kept it from doing its job. That a number of universities and other course-offering organizations regularly do use subway posters and car cards to get their messages across seems to indicate that we need to think through carefully why this medium proved ineffective in our case.

2. A large proportion of our fan mail came from an older, non-college-bound group. While we did have a sizeable official enrollment from this group, we have a strong indication it could have been much larger. If such a project is repeated, it would be wise to consider better methods of appealing to this older group without, at the same time, detracting from the courses' appeal for college-preparatory students.

3. An effort might also be made to attract the potential audience in such institutions as prisons, hospitals, and sanitoria. The Chicago City Junior Colleges have been quite successful in this. Some of our correspondence also leads us to believe foreign-born persons might use the English course to advantage in learning the language. Contact with this group might be made through Americanization classes conducted by the Chicago Public Schools.

Study Materials

Problems and Their Solution

A number of problems needed to be solved in the areas of selection, preparation, and distribution of the study and testing materials which the student would use to supplement his viewing of television class sessions.

Lack of staff made it inadvisable to plan courses in which daily assignments would be graded at the University. Therefore, the need for exercises and problems which could be graded at home became an important factor in planning study materials.

In the mathematics course, this problem was solved by the production of a combination workbook-study guide, hand-tailored to the course. The workbook portion of this 50-page, paper-bound book was constructed by a member of the mathematics faculty on a free-lance basis after securing proper approval. It was divided into 33 sections -- each related to a projected session of the television series. Each section contained a listing of a reading assignment from the text (College Algebra, Feinstein and Murphy, Ames, Iowa: Littlefield, Adams and Company, 1957) and a related set of problems to be worked by the student. A section at the back of the book contained the answers to all problems.

In addition to assignments and problem lists, this book contained an introduction which explained the purpose of the course and what would be expected of the student, gave directions for taking the pre-test and post-test, made suggestions for viewing television and studying course materials, and gave information about setting up personal conferences with the instructor.

In the case of the English course, the problem of home-graded assignments was solved in another way. After a considerable amount of negotiation by Dr. Johnson, Scott-Foresman and Company agreed to release for student use an instructor's answer key to the 1950 edition of Using Good English by Robert Warnock. This book is a combination text and workbook. It was possible for Dr. Johnson to choose from its large selection of readings and exercises those applicable to each topic to be presented on television. The list of assignments so prepared was then incorporated into a study guide of 14 pages. As in the case of the mathematics study guide, this book also contained an introduction which attempted to orient the student to the course.

It was assumed from the beginning of our planning that upon enrolling in our courses, students would be sent copies of the study guides. Now the question arose as to how texts could be made most easily available to students. Initially, the plan had been to make arrangements with selected bookstores in various portions of the metropolitan area to carry the texts for the two courses, and to inform the student through the study guides where the books were available.

This course of action recommended itself because it would mean that the University could charge a minimum fee for enrollment and study materials, and this might be a positive factor in securing a large number of enrolled students. It would also mean little strain on the resources of the University in terms of ordering, packing, and mailing materials.

However, on further thought, it seemed probable that these gains would be offset by the fact that each student would need to make a trip of considerable distance to a bookstore to obtain his textbooks. An informal discussion with a local publisher indicated that in the case of at least one local television course, the trip to a bookstore had, in many instances, simply not been made.

Therefore, this problem was reconsidered in an effort to make certain that each enrolled student would have in his possession the study materials necessary to get the most from the courses. It was decided that the University would include textbook costs in its enrollment fee and would send texts to students at the time of enrollment.

In the area of supplementary materials, there remained the problem of materials to be used in testing television students at home before the project began and again at its completion.

In the case of the English course, Dr. Johnson secured permission to use two outmoded versions of the Rhetoric Placement Test -- one to be used in testing students before the opening of the course, the other for use at the course's end. In the case of the mathematics course, two tests similar to the University placement test were constructed under Mr. Murphy's supervision by the mathematics faculty member also responsible for the problem lists in the mathematics study guide. Although it had been assumed initially that students would score their own tests, later discussions made it seem likely that the University could better evaluate the project if it took the responsibility for scoring tests.

In each course it was decided that one test, together with an answer sheet with perforated score-recording card, a grade-report slip, and a University-addressed envelope, would be sent out to the student in the packet containing text and study materials. Before beginning the course, the student would take the test at home and send the answer sheet and grade-report slip to the University so that his test could be scored and the results reported back to him.

The second test, with answer sheet, grade slip, and return envelope would be sent to the student in a separate mailing toward the end of the course.

A list of materials to be sent to students at the time of registration included:

English

Text-workbook -- Using Good English
Instructor's Answer Key to Using Good English
Study Guide
Pre-test
Answer sheet with perforated grade-record card
Grade-report slip
Envelope addressed to the University

Mathematics

Text -- College Algebra
Workbook-study guide
Pre-test
Answer sheet with perforated grade-record card
Grade-report slip
Envelope addressed to the University

Once the list of necessary items was assembled, we were faced with the problems of what to charge students for them and of what machinery to set up to handle assembling and mailing.

The English text retailed at $3.75. But the simplicity of the study guide for this course made it seem unlikely that the University's cost in producing it would be high. The mathematics text retailed at $1.75. Here, the workbook-study guide which we would have to produce ourselves looked likely to be costly.

In other words, while individual study materials for mathematics and English courses varied in cost, it seemed likely that the total costs of the assembled materials would be nearly equal.

An early estimate of study materials' costs resulted in our setting the enrollment fee for each course at $5.00 -- this sum to cover not only study materials but postage and the actual labor costs involved in enrolling students. In reality, whether or not this fee would cover costs was not answerable at this point. The study packages' paying for themselves was dependent upon a sufficient number of students' enrolling in the two courses. We had no means of adequately estimating the size of enrollments ahead of schedule.

The University bookstore agreed to handle the ordering of texts and the assembling and mailing of study packages. With no foreknowledge of the number of students who would enroll, the bookstore placed an initial order of 250 of each text, on consignment.

Publishing and Printing

Promotional activities already had involved the project in sizeable quantities of writing, editing, copyreading, and dealing with artists, typesetters, and printers. Now, though texts in both courses came from commercial publishers and the Rhetoric Placement Tests were previously printed, the publication of study materials and other items supplementary to the television broadcasts gave the summer television office the appearance of a publishing-house production department. Both television instructors and the producer took on a variety of writing and editing duties.

A list of supplementary materials produced for the course included:

1,000 14-page English study guides
- written by Dr. Johnson
- vari-typed and reproduced by the Chicago Undergraduate Division Stenographic Services

750 50-page mathematics workbook-study guides
750 8-page mathematics pre-tests
750 8-page mathematics post-tests
- * problem lists constructed under Mr. Murphy's supervision on a free-lance basis by a mathematics faculty member.
- * introduction to study guide written by Mr. Murphy and Miss Jipson
- * typed for reproduction by outside, specialized mathematical typist
- * printed by Stenographic Service

1,500 Answer sheets for English pre- and post-tests
1,500 Answer sheets for mathematics pre- and post-tests
- * designed by the summer television office to include a perforated record card with blanks for information about students and for recording student test scores
- * set and multilithed by Stenographic Service

3,000 grade-report slips for use with window envelopes in returning student grades
- * designed by summer television office
- * mimeographed by Stenographic Service

3,000 University-addressed envelopes for use in returning answer sheets to the University
- * printed by Stenographic Service

3,000 window envelopes for use in reporting student grades
- * printed by Stenographic Service

4,000 mailing labels for use in sending tests and study packages to students
- * printed by Stenographic Service

750 grade-explanation sheets to accompany grade reports in English
- * written by Dr. Johnson
- * mimeographed by Stenographic Service

750 3-page mathematics errata sheets
- * prepared by Mathematics Department
- * mimeographed by Stenographic Service

1,100 7-page student questionnaires asking student reactions to the courses
- * constructed by summer television office
- * prepared for mimeographing by personnel in Liberal Arts College Office
- * mimeographed by Stenographic Service

An Evaluation

Generally speaking, the study-package idea seems to have worked out well in terms both of meeting costs and of assuring that students would possess all materials necessary in following the courses.

In regard to study materials included in the package, it is Dr. Johnson's feeling that if the English course were to be taught again at its present level of difficulty, the same text-workbook and essentially the same study guide could be used. However, if for reasons to be discussed later, the course were to be upgraded in difficulty, the whole text-workbook and study-guide area would need to be re-evaluated.

Plans are already being made to use problems from the mathematics workbook as well as the pre-test and post-test in a classroom situation in order to see where improvements might be made. In terms of writing, editing, and publishing, this workbook taught us several lessons through sad experience:

1. All problems included in any workbook of this type ought to be separately worked before inclusion by at least two mathematically skilled individuals to insure that errors do not creep into the answer lists.

2. For the same reason, all copy reading and proofreading of such a workbook ought to be done by at least two mathematically skilled individuals working separately.

3. It is useless to consider any method of preparing such a workbook for reproduction more elaborate than typing because of prohibitive costs. (Estimates on vari-typing this workbook ran as high as $750. Bids for typesetting were for $700. Our final bill from a skilled mathematical typist was for $77.00. An additional $7.50 was paid to a student artist for hand printing brackets and other mathematical symbols.)

In the preparation of both promotional pieces and study materials, an earlier start would have proved beneficial. Promotional pieces to students, subway posters, news releases, letters to school and college officials, study guides, problem lists, tests, answer sheets, grade-report slips, envelopes, and mailing labels -- all went from the gleam-of-an-idea stage through construction, printing, and distribution in a two-and-one-half month period just prior to the first broadcast. This produced a publishing jam-up which continued into the time when enrollments were beginning to be received, making it necessary to hold some of the orders for study packages for several weeks before filling them. It also took time and attention of the participants and producer at a time when efforts should have been devoted almost completely to the production problems of the actual television broadcasts.

Enrollments

How They Arrived

Our first promotional pieces reached the high schools in mid-May, and registrations began arriving slowly around the 20th of the month.

A report of the number of enrollments received week by week appears below:

Week of	Number of Students	English Enrollments	Math Enrollments
May 19	26	22	19
May 26	142	109	90
June 2	354	266	213
June 9	144	112	84
June 16(1st broadcast)	193	138	115
June 23	91	51	55
June 30	23	12	14
July 7	22	10	15
July 14	14	5	12
July 21	6	4	3
July 28	7	4	5
Aug. 5	0	0	0
Aug. 11	1	0	1
Totals	1023	733	626

Four individual students withdrew from courses prior to their study materials' being sent to them. Two of these had enrolled in (and withdrew from) both English and mathematics courses. Two withdrew from mathematics only. This brought the student total down to 1,019; English to 731; and mathematics to 622.

How They Were Processed

The enrollment blank which was a part of each student brochure sent out appears below:

COLLEGE-PREPARATORY TELEVISION COURSES
UNIVERSITY OF ILLINOIS
NAVY PIER, CHICAGO 11, ILLINOIS

I wish to enroll in the following non-credit courses:

___College-preparatory English ___College-preparatory mathematics

Enclosed, find check or money order payable to the University of Illinois for $___($5.00 for each course) to cover the cost of guide to course work, textbook, exercises, and test materials.

NAME____

HIGH SCHOOL____

HOME ADDRESS____

CITY____________________ ZONE_____ STATE____________________

TELEPHONE NUMBER____

(The majority of our applications for enrollment came in on this form. Since the application blank was used as a record card for the student, it was necessary for the summer television office to fill out this form for all students whose applications arrived in less formalized condition.)

Upon receiving an application for enrollment, Mrs. Corty made up a mailing label for each course in which the student enrolled, coding it in the right-hand corner with an E or M for English or mathematics. She then made up an extra label for later use in mailing post-testing materials to the student.

Toward the end of each working day, Mrs Corty filled out the following form in triplicate, listing each enrollment received that day:

DAILY RECORD OF ORDERS RECEIVED

SUMMER TELEVISION COURSES
COLLEGE-PREPARATORY ENGLISH AND MATHEMATICS

Date____________________

Total registrants on date____________

Total English registrations____________

Total mathematics registrations__________

Total fees collected________________

Copies to:

Bookstore____________

Cashier____________

Broadcasting____________

NAME OF REGISTRANT	KIT DESIRED	AMOUNT RECEIVED	CASH	CHECK	MONEY ORDER
Smith, James	English-math	$10.00		#254	
Williams, Anne	English	5.00	X		

The first copy of the form, together with a set of mailing labels, was picked up from the summer television office and taken to the bookstore. At the bookstore, the labels were attached to pre-packed study packages. All packages for the day were then checked off against the daily record of orders received and were mailed.

Mrs. Corty took the second copy of the form and all cash, checks, and money orders to the University cashier for financial processing.

She then filed all application forms in an alphabetical card file.

An Evaluation

Mrs. Corty, as the person most intimately involved with enrollment procedures, has made a number of worth-while suggestions for their improvement. Some of these appear below:

1. At least some applications should be printed separately from brochures. These could be more easily filled out by persons applying in person or by office personnel in those instances when the application is by letter. Such separate applications also could be inserted in the pockets of subway posters or other posters.

2. The application should include blanks for more information. Included might be:

   Date of application
   Age of student
   Occupation
   Date of high-school graduation
   College to be attended, if any

   Blanks for all of this information, as well as the present blank for information about high school attended, should follow the student's name, address, and phone number. In addition, for the sake of better record keeping, a "do not write below this line" might be followed by blanks which project personnel could use later in recording pre-test, post-test, and placement-test scores.

3. Mailing labels should be printed separately or else on perforated strips. (Ours were printed, unperforated, on sheets of four.)

4. The "Daily Record of Orders Received" form could be improved by making the following changes:

   * placing a blank for the date on second sheets to aid the bookstore in establishing date material was sent out.
   * making a column for grand totals adjacent to the present column for daily totals: (Grand totals are requested daily by various persons.)
   * making a column to indicate "received" for use in those instances when a student personally picks up his study materials. This would prevent the bookstore's sending out duplicate orders.

III
PRESENTATION OF COURSES

Television Production

Work Before First Broadcast

In preparing 33 half-hour television presentations each, Dr. Johnson and Mr. Murphy were assisted by Maurice I. Borg, Jr., Director for WTTW, and Barbara Jipson, Producer for the University. In addition, Mr. A. E. Partridge, Chicago Supervisor of Broadcasting for the University; Mr. Vincent Parks, Producer at WTTW, and Mr. Donley Federson, Program Adviser at WTTW, served generally as resource persons and were particularly helpful in criticizing a trial kinescope and initial broadcasts. Mr. Partridge also aided in rehearsing presentations for the trial kinescoping.

Throughout the production of the two courses, one policy was firmly adhered to: *What* was to be presented was entirely in the hands of the instructors; the *hows* of presentation, on the other hand, were matters of constant collaboration among academic and television personnel.

In the earliest stages of planning -- when instructors were determining what materials to present in the 16½ hours of air time allotted each and were attempting to break this material into half-hour units -- television personnel served mainly to answer questions as to the feasibility of this or that approach on television. This tended to be the case also when instructors were doing their initial thinking about examples to be used in illustrating major points. However, as it became necessary to determine how such examples and illustrative materials might be presented to greatest auditory or visual advantage, television personnel played a somewhat larger role. Initial questions in this area were quite general: Is a drum device the best way of presenting tabulated materials in English? Can a television camera take a picture of a full six-foot width of blackboard in such a way that the mathematics problems on it are easily readable by the home audience?

Wherever possible, University television personnel dealt with these early questions directly.

Miss Jipson began meeting with station personnel early in May to discuss facilities, sets, and special visual problems. A meeting at that time with Robert Carollan, Executive Producer of the Chicago City Junior Colleges TV College, also proved helpful.

Actual production meetings regarding individual broadcasts and involving producer, director, and instructors began in mid-May. By the end of the month, both instructors also had made two orientation trips to the station to learn about facilities, to watch actual television classes being broadcast, and to discuss television teaching with experienced TV instructors from the Chicago City Junior Colleges.

Both instructors prepared segments of their initial broadcasts for presentation, and test kinescopes of these were made on June 4. This made it possible for Dr. Johnson and Mr. Murphy to see themselves as the television camera saw them prior to the initial live broadcast and to make changes which seemed likely to improve their presentations.

General Format

Beginning June 16, each instructor presented three half-hour television lessons per week. Broadcasts occurred on Mondays, Wednesdays, and Thursdays. English was broadcast from 7:30 to 8:00 P.M., Mathematics from 8:00 to 8:30 P.M. At the suggestion of WTTW personnel, the two courses were set up for broadcast as a single unit. Titles were given at the beginning of the English broadcast and credits, at the end of the mathematics broadcast. The only break between the two classes was a two-minute intermission preceded by an announcement suggesting that listeners stay tuned for the mathematics broadcast.

This effort to give the feeling that the two courses were parts of a single unit was maintained also in the set design. The two courses were presented from adjacent areas of the same set. The continuous flat which served as a backing for both programs was given a contemporary treatment, and furniture used for both classes was contemporary in design.

Actual television presentation of the two courses, however, varied a good deal. This was due to a variety of factors including basic differences in subject matter, differences in instructors' points of view, and differences in availability of visual materials.

Differences in Courses

In English, the instructor was attempting to describe and "map" the vagaries of a language which "just grew." Here, the visual analogy, the cartoon, even an occasional "gimmick" could be used with profit to offer the student mental pegs upon which to hang rules and generalizations. In English, a good many visual materials either already existed or could be produced. And, in general, the subject matter was such as to lend itself to visual presentation through charts, posters, etc. prepared prior to broadcast. In addition, course material was such that it could, with some ingenious tailoring, usually be neatly packaged into topic units of 28.5 minutes.

In mathematics, systems of closely interrelated ideas were logically developed over a period of several broadcasts. Topics could not be presented in self-contained program units, and it seemed likely that any but slight deviations from simple, straightforward presentation might do more harm than good. Unusual visuals and interest-producing gimmicks seemed less likely to enhance the presentation than to get in the way of the train of thought. Then, too, it was Mr. Murphy's feeling that many of the visual aids and analogies used in algebra classes were mathematically inaccurate.

Another factor affecting the presentation of the mathematics course was the student's need frequently to see the process of problem solution actually going on before his eyes and to watch the instructor go through the process step by step.

The English Course

The English course usually opened with Dr. Johnson seated at or on a desk and using an interest-catching visual or story to introduce his topic for the evening. Although certain visual aids were used with some regularity from program to program -- the 11-by-14-inch cards played from the table easel and the 24-by 32-inch pad sheets played from the standing easels are examples -- there was considerable variety from evening to evening in other visual materials presented and in the method of their presentation.

Having introduced his topic for the evening, made his major points, and illustrated them either visually or orally, Dr. Johnson would close his presentation with a summary and review of materials covered. In the next session, he would take up a new topic.

The variety of visual materials required for this course and the variety of methods used in presenting these caused planning and preparation on individual broadcast sessions to be a fairly complex matter. A reasonably complete list of the visuals used throughout the summer on this course appears below:

91 hand-printed 11-by-14-inch easel cards, four to 30 words per card
14 easel cards, produced on bulletin-type typewriter
11 hand-printed two- and three-word title cards
109 hand-printed 24-by-32-inch pad sheets, 20 to 60 words per sheet
3 larger, hand-printed charts including one "flying visual"
105 hand-printed flannel-board strips, cut and backed with sensitized paper, one to four words per strip
90 smaller hand-printed strips played from flannel board or desk card
5 professionally-prepared charts
11 professionally-prepared cartoons
7 professionally-prepared line drawings
15 photostatic blow-ups of entries from dictionaries or Roget -- size increased through four enlargements
1 large blow-up of dictionary page borrowed from publishing house
5 blow-ups of cartoons from published texts
1 photostatic blow-up of title page from quarto edition of Hamlet
2 photostatic blow-ups illustrating the process of writing
2 vari-typed and photostatically blown-up process-of-reading illustrations
4 reading slides, black on white
7 super-slides, white on black
1 four-minute reading movie
1 tachistoscope
2 pictures of dinosaurs
1 picture of a suspension bridge
1 toy dog
1 dog house
1 doll
2 sets of bowling pins
1 toy piano

Weekly and sometimes semi-weekly meetings of instructor, producer, and director were required to select examples from among the potential visual raw material offered by Dr. Johnson and to determine how these might best be played. This considerable variation in format and staging from session to session made walk-through rehearsals with camera a matter of importance.

The Mathematics Course

In mathematics, the situation was quite different. Mr. Murphy opened his class either by making necessary announcements or by immediately picking up his subject matter at the point where time had forced him to stop at the class of the previous session. Generally speaking, his visual aids were limited to three:

1. A set of 11-by-14-inch cards played from a desk easel. These were used to present definitions and rules, generally in simple English. Approximately 32 of these cards were used in 33 broadcasts.

2. A set of 24-by-32-inch gray pad sheets played from a standing easel. These were used to display pre-worked problems and to give the symbolic presentation of general statements. Approximately 120 of these sheets were used in 33 broadcasts.

3. A three-sided, revolving blackboard - 30 inches by six feet. On this, Mr. Murphy worked out problems during the class session and presented materials impossible to present from smaller visual devices. This was an enlarged version of a device previously constructed for the Chicago City Junior Colleges. It provided for a large quantity of writing space in a limited set area and dispensed with considerable quantities of on-camera blackboard erasing which otherwise might have been necessary. The major part of Mr. Murphy's material was presented from this board.

The three visual aids above plus a high lecture desk and lectern were the materials used throughout the course. Because the desk, the pad, the easel, and the blackboard comprised the four possible stations which Mr. Murphy might occupy during the course of any single television presentation, the problem of rehearsing individual programs was lessened. The camera could follow Mr. Murphy with considerable ease from one station to another if the director knew ahead of time the order in which Mr. Murphy would take up his four possible stations and the topics he would present at each.

Although, once established, this basic pattern made the mathematics course fairly simple to set up each evening, there were certain problems connected with this course which caused considerable difficulty in initial planning and continued to cause mild production headaches throughout the summer.

One of these was the complete disregard which algebraic formulas and problems had for the three-by-four ratio of the television picture. The gist of several conversations with people who had been involved previously in producing mathematics television courses was that the algebraic formula would just have to be made to fit. A careful selection of examples so that these would fit the prescribed picture ratio was the suggested solution.

However, Mr. Murphy felt that this would make impossible an adequate presentation of certain topics. Experimentation showed that it was possible for the camera to pan slowly across a wider expanse of blackboard and, in such a way, to follow Mr. Murphy line by line through problem solutions and explanations. In general, this solved the problem though occasional, rapid shifts from one side of the board to the other still caused difficulty.

Another question which needed solution was what quantity of handwritten material could be included and easily read in a stationary television picture. Since this was dependent upon a variety of factors including the camera lens in use, it could be solved only through on-camera experimentation. We learned it was not always necessary to use close-ups of blackboard work and that a middle shot with a 100mm television lens, while not producing top-flight legibility, still gave a readable result when it was necessary to include a fairly large segment of blackboard in a single, stationary picture.

Visual Aids and Mechanical Aspects of Production

The work of preparing and procuring visual aids was begun with two basic misconceptions:

1. We assumed that our load would be lightened considerably through the use of a bulletin-type typewriter in the production of desk easel cards.

2. We assumed that a $500 visual aids budget would be sufficient to allow for semi-professional artists' doing a large portion of our visual materials. (We hoped to recruit as artists art and architecture students not attending summer session.)

The bulletin typewriter had been used consistently by the Chicago City Junior Colleges in preparing desk easel cards for television,and as far as we know there was little or no complaint from the audience. Our use of the device, however, brought all kinds of complaints about illegibility within the first week or two of broadcast. As a result, we discontinued use of the bulletin typewriter shortly thereafter.

The great quantity of English visuals alone soon made it apparent that $500 would not nearly cover costs if it were to be consistently paid out to artists at even $3.00 to $5.00 per piece of finished art or at $1.50 to $2.00 an hour for reasonably professional straight hand-printing.

The only solution was for those most intimately involved in producing the programs for the University to construct their own visual aids. The actual division of labor in this matter was made for a variety of fairly personal reasons which had little to do with a just distribution of the work load.

Mr. Murphy's handwriting -- particularly on mathematical materials -- was sheer artistry. In addition, production of his materials by a person unskilled mathematically would have required a great deal of close supervision. As a result, Mr. Murphy prepared 120 pad sheets for television presentation using a Flomaster felt-point pen. Miss Jipson hand printed those easel cards not prepared on the bulletin typewriter.

Dr. Johnson, on the other hand, felt his handwriting was not something he wanted placed on public view. In addition, the idea of hundreds of handwritten English sentences seemed visually unattractive and uninteresting. To solve this problem, Miss Jipson "invented" a device which allowed her to hand print cards, pad sheets, and posters (in capital letters only). This was a cardboard sheet with slots of a specific height cut into it at regular intervals. By printing with a felt-point pen within the confines of these slots it was possible to produce block capital letters of a consistent height, though not of a consistent width. Slots varying in height from one-half inch through one inch allowed for the production of letters of various sizes for various purposes. Results were by no means professional, but use of this device did produce a fairly neat piece of work. With it, Miss Jipson printed all English visuals listed as "hand-printed" in the previous enumeration as well as the mathematics cards mentioned above.

Hand-printed easel cards produced for both programs were done on Number 350 Crescent TV Board as were cartoons, charts, and drawings produced for the project by professional artists. Sheets used for larger visual presentations on the standing easel were of a heavy gray stationery stock available through WTTW. In all amateur visual-aid production, however, the most indispensable item was a felt-tipped lettering pen.

In addition to the preparation of visual aids, the summer television office was responsible for securing clearance to use copyrighted materials, securing properties, dealing with artists, photostaters, slide producers, the WTTW facilities department, etc. The office also handled the mechanical reproduction of shooting scripts for each broadcast.

Improvement of Production Procedures

Four things would have improved greatly the production of actual television presentations of this course: 1) more time; 2) a larger visual-aids budget; 3) better methods of securing art supplies; 4) an earlier understanding of the nature of the audience with which we were dealing. We will deal with first three of these factors in this section. The fourth will be treated later in this report.

As indicated in an earlier section, the publishing jam-up which immediately preceded the initial broadcasts badly cut into the amount of time the producer and instructors could spend on advance planning for the course. In large part, this could have been avoided had the project gotten off to an earlier start.

Through the period when the course was actually being broadcast, Mr. Murphy was spending six to eight hours per week and Miss Jipson, eight to twelve on the construction of visual aids. This time could have been put to greater creative advantage if the schedule had allowed working further in advance so that more printing and art could have been assigned to outside personnel and if funds had been available to pay these individuals.

The fact that the visual aids budget for this Chicago Undergraduate Division project was administered from an altogether different campus (the Chicago Professional Colleges) caused certain complications in the purchasing of art supplies. This, plus lack of storage space, caused art supplies to be purchased by the producer in very small quantities from a special petty cash fund. This was uneconomical in terms of time expended.

Personal Conferences

Both Dr. Johnson and Mr. Murphy held office hours from 5 to 8 P.M. Tuesday evenings at the Illini Center in the LaSalle Hotel. Students could arrange for personal conferences ahead of schedule by calling the Humanities office or the Mathematics office for an appointment. Instructors also answered phone queries during their office hours.

For Mr. Murphy, the number of personal conferences per office evening ran between one and six, with the average falling at about three. He had between one and eight phone calls an evening, with the average running at about four.

In the case of Dr. Johnson, the number of personal interviews and phone conferences was negligible.

Test Procedures

Numbers of Tests Returned

Of the 731 students officially enrolled in the English course, 573 returned pre-tests for scoring and 234 returned post-tests.* Of the 622 students enrolled in mathematics, 383 returned pre-tests and 144 returned post-tests.*

Information about taking the pre-tests and post-tests appeared in both study guides. Several announcements also mentioned each test on the air. A special effort was made to call attention to the post-tests by sending these to all enrolled students in a special mailing late in the course.

If the University had paid the postage on answer sheets returned for scoring, a greater return on both pre-test and post-test might have been gained. Also, it is possible a greater return on the pre-tests might have been achieved if even greater emphasis had been given them during early course broadcasts. Whether an increased broadcast emphasis would have increased the number of post-tests returned is open to question.

It seems likely that the motivation for taking the tests -- particularly the post-test -- was not great. The course was non-credit. No grades for the course were given or recorded. For most of our students, the end of the summer signaled not only the end of our courses, but also the beginning of their college careers. -- for which, after all, our courses had been only preparation. Interest may have shifted to college placement and entrance exams where the real worth of our courses would be measured.

It is interesting to note that, at the end of the course, approximately 30 more English students filled out and returned a seven-page evaluatory questionnaire than returned the post-test. And almost 100 more mathematics students filled in the questionnaire than took the post-test. Two factors may have been important here: 1) answering the questionnaire took considerably less effort than taking the test, 2) the University paid the postage on returned questionnaires.

Procedures in Scoring, Recording, and Reporting

In order to receive a report on his achievement level in mathematics or English, the student, after taking the pre- or post-test, used an especially addressed envelope to return to our TV office the test answer sheet (which incorporated a perforated permanent record card) together with a grade-report slip upon which he had filled in blanks asking for his name and address.

The tests were scored. The results were recorded and filed on the permanent record cards and were reported to the student on the grade-report slip which had been designed so that the filled-in name-and-address blanks served as the address in a window envelope.

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* In the analysis of test results included in the next section of this report, only 221 English post-tests and 134 mathematics post-tests are included. Seven English students and five mathematics students took post-tests without previously having taken pre-tests. As a result, no evaluation of their progress during the course was possible. In addition, six English post-tests and five mathematics post-tests were returned to the University too late to be included in this analysis.

In the case of the English pre-test, a specially mimeographed sheet explaining the meaning of the scores was also enclosed. An explanation of the mathematics pre-test score was given on the air. Mimeographed explanations of scores were sent out with both mathematics and English post-test results.

In scoring tests and reporting and recording scores, several things might have been improved upon.

In the first place, no formal decision ever was made regarding whose responsibility it was to score tests. As a result, the secretaries in the Humanities Division scored the English pre-tests. A student employee hired by the Mathematics Division scored the mathematics pre-tests. The secretary for the Chicago Broadcasting Office at the University's Professional Colleges scored both mathematics and English post-tests.

In the second place, lack of personnel and the pressures of producing three hours of television courses a week allowed no time to evaluate pre-test results prior to the end of the course. Had such an evaluation been possible, participants would have had a much better picture of the groups they were endeavoring to teach.

IV
FINDINGS RESULTING FROM COURSES
What Test Results Indicated

In Mathematics

Of the 622 individuals officially enrolled in the mathematics course, 383 took the pre-test and returned it for scoring. On this test a score of 35 or less indicated that the student had need of remedial work in mathematics below the college level. Of the students taking the pre-test, 321, or 86.43 per cent fell into this category, while 52 or 13.57 per cent scored more than 35 points correct. The mean score for this group was approximately 23.

Of the individuals taking the pre-test, 134 also took and returned the post-test in time to be included in this evaluation. Of these 134, 84 persons or 62.69 per cent continued to make scores of 35 or less, whereas 50 or 37.31 per cent made non-remedial scores. The mean score for this group on the post-test was approximately 30.

The mean pre-test score for individuals taking the post-test was approximately two points higher than the mean pre-test score for the total sample of 383. On the pre-test, 24 or 17.91 per cent of the 134 individuals also taking the post-test scored in the non-remedial category while 110 or 82.09 per cent made scores indicating a need for remedial work. The above information is summarized in the table below:

	Percentage falling in remedial group	Percentage falling in non-remedial group	Approximate mean score
Pre-test results for total sample of 383	86.43	13.57	23
Pre-test results for 134 students also taking post-test	82.09	17.91	25
Post-test results for 134 students above	62.69	37.31	30

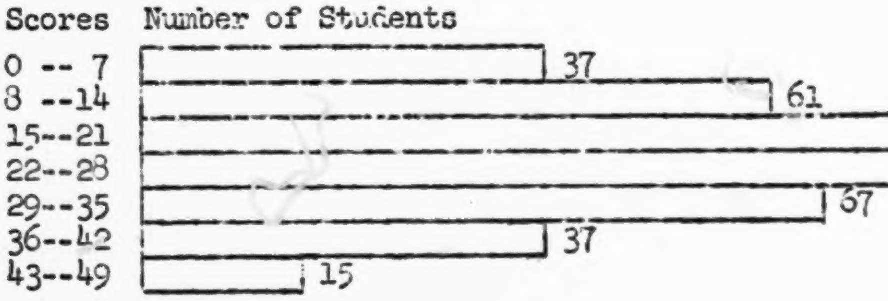
The graphs on the following page break down test score results in terms of frequency distributions.

BASIC DATA ON MATHEMATICS
TEST RESULTS

Scores indicate the number of right answers.

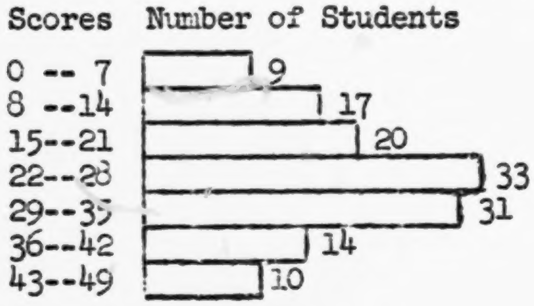
On these tests, designed to parallel the Mathematics Placement Tests, a score of 36 or more would indicate a student had little need of remedial work in mathematics.

MATHEMATICS PRE-TEST RESULTS (Total Sample, 383)



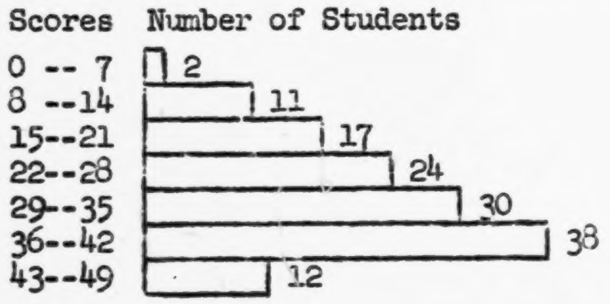
Test results indicate 52 of these 383 students would have placed out of remedial classes prior to taking the course.

MATHEMATICS PRE-TEST RESULTS FOR INDIVIDUALS ALSO COMPLETING POST-TEST (Total Sample, 134)



Test results indicate 24 of these 134 students would have placed out of remedial courses prior to taking the course.

MATHEMATICS POST-TEST RESULTS (Total Sample, 134)



Test results indicate 50 of these 134 students would have placed out of remedial classes after taking the course.

How the post-tested group in mathematics varied from the total pre-test sample, both before and after taking the course, is indicated in the chart below:

PERCENTAGES OF STUDENTS IN THREE TEST GROUPS SCORING IN EACH CLASS INTERVAL

Scores	Pre-test percentages for total pre-tested sample of 383	Pre-test percentages for group of 134 also taking post-test	Post-test percentages for group of 134
0 -- 7	9.74	6.72	1.42
8 --14	15.93	12.69	8.20
15--21	19.34	14.92	12.67
22--28	23.52	24.63	17.91
29--35	17.49	23.13	22.39
36--42	9.66	10.45	28.36
43--49	3.92	7.46	8.95

Generally speaking, individuals who scored high on the pre-test continued to score high on the post-test. Low scorers on the pre-test tended to score low on the post-test.

A positive correlation of .80 existed between mathematics pre-test and post-test scores. Below is the table from which this correlation was computed:

CORRELATION TABLE FOR MATHEMATICS PRE-TEST AND POST-TEST SCORES
(Total Sample, 134)

Pre-test Scores	Post-test scores						
	43--49	36--42	29--35	22--28	15--21	8--14	0--7
0 -- 7			1	1	4	3	
8 --14		2	1	3	4	5	2
15--21		1	4	7	5	3	
22--28		3	15	11	4		
29--35	3	19	7	2			
36--42	3	9	2				
43--49	6	4					

In English

Of the 731 individuals officially enrolled in the English course, a total of 573 took the pre-test and returned it for scoring. On this test, a score of 43 or more wrong indicated that the student in question had need of remedial work in English below the college-credit level. Of the total group taking the pre-test, 54 or 9.42 per cent placed in the remedial category before the course began, whereas 519 or 91.58 per cent of the group made scores of 42 wrong or less, indicating that they probably were capable of college-credit work even prior to taking the college-preparatory course. The mean pre-test score for this total sample was approximately 27.09. (For purposes of comparison, it is interesting to note that in the fall of 1957, about 25% of those students taking the University's Rhetoric Placement Test made scores placing them in remedial classes.)

Of the 573 individuals taking the pre-test, 221 took the post-test and returned it to the University in time for inclusion in this report. Of these, 27 or 12.22 per cent made scores in the remedial category, whereas 87.78 per cent made scores of 42 wrong or less. The mean score for this group on the post-test was 26.72.

The pre-test score breakdown for the same 221 individuals for whom post-test scores are given shows that the mean pre-test score for this group was 26.94. A total of 18 or 8.14 per cent of these 221 students were in the remedial category prior to taking the course. Of the same sample 203 or 91.86 per cent made scores of 42 wrong or less -- scores indicative of a readiness to do college-level work.

The above information is summarized in the following table:

	Percentage falling in remedial group	Percentage falling in non-remedial group	Approximate mean score
Pre-test results for total sample of 573	9.42	91.58	27.09W
Pre-test results for 221 students also taking post-test	8.14	91.86	26.94W
Post-test results for 221 students above	12.22	87.78	26.72W

In short, English students made unexpectedly high scores on the pre-test and made no significant score gains from pre-test to post-test.

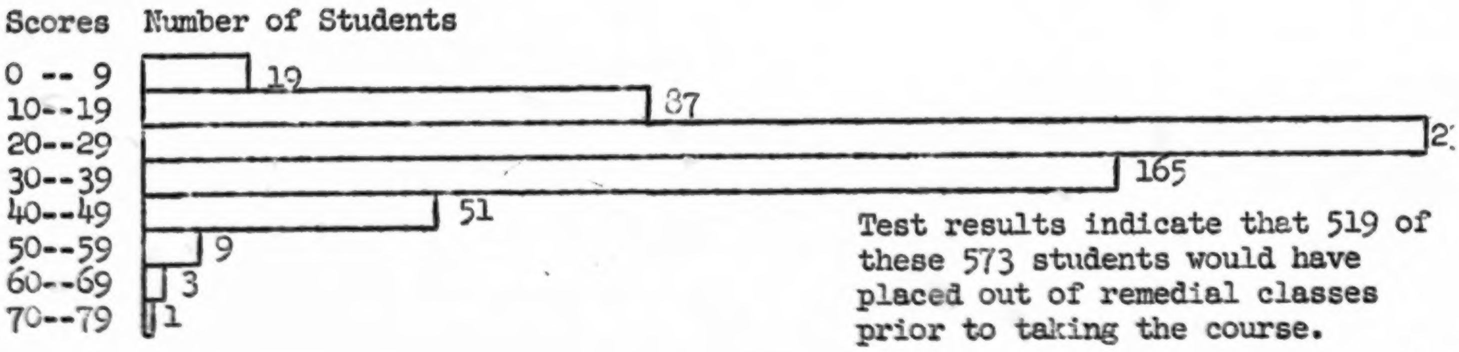
The graphs below break down test score results in terms of frequency distributions:

BASIC DATA ON ENGLISH TEST RESULTS

Scores indicate the number of wrong answers:

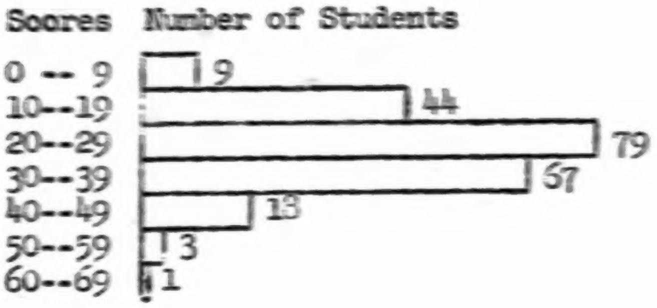
If these tests had been taken for placement purposes at the University of Illinois, a score of 43 or more wrong would have placed the student in a remedial course. A score of 42 or less would have allowed the student to enter a credit English course.

ENGLISH PRE-TEST SCORES (Total Sample, 573)



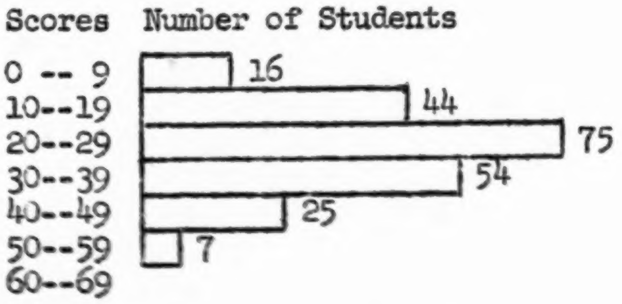
Test results indicate that 519 of these 573 students would have placed out of remedial classes prior to taking the course.

ENGLISH PRE-TEST SCORES FOR INDIVIDUALS COMPLETING POST-TEST (Total Sample, 221)



Test results indicate 203 of these 221 students would have placed out of remedial classes prior to taking the course.

ENGLISH POST-TEST SCORES (Total Sample, 221)



Test results indicate that 194 of these 221 students would have placed out of remedial classes after taking the course.

How the post-tested group in English varied in terms of percentages from the pre-tested sample both before and after taking the course is indicated in the table below:

PERCENTAGES OF STUDENTS IN THREE TEST GROUPS SCORING IN EACH CLASS INTERVAL

Scores	Pre-test percentages for total pre-tested sample of 573	Pre-test percentages for group of 221 also taking post-test	Post-test percentages for group of 221
0 -- 9	3.31	4.07	7.24
10--19	15.18	19.91	19.91
20--29	41.53	35.75	33.94
30--39	28.79	30.32	24.23
40--49	8.90	8.14	11.31
50--59	1.57	1.36	3.17
60--69	.52	.45	
70--79	.17		

Although the tendency was slightly less pronounced than was the case in the mathematics course, English students who made high test scores prior to the course generally continued to make high test scores at its close, and students scoring low on the pre-test tended to score low on the post-test. A positive correlation of .66 existed between students' pre-test and post-test scores. Below is the table from which this correlation was computed:

CORRELATION TABLE FOR ENGLISH PRE-TEST AND POST-TEST SCORES
(Total Sample, 221)

Pre-test Scores	Post-test Scores						
	60--69	50--59	40--49	30--39	20--29	10--19	0--9
0 -- 9						6	3
10--19					14	19	11
20--29			2	18	42	16	1
30--39		3	15	29	16	3	1
40--49		2	7	7	2		
50--59		1	1		1		
60--69		1					

Relationship Between English and Mathematics Test Scores

Analysis indicates considerable contrast in pre-test results of English and mathematics students. On the basis of these results, it would appear that the enrolled student body of the mathematics course was comprised primarily of students who, at the beginning of the course, were in need of remedial work. On the other hand, the English student body was primarily a group not in need of remedial work.

In addition, comparison of mathematics pre-test and post-test results indicated that a gain occurred in student ability to understand and apply mathematical concepts. An indication of a gain in the ability to handle the English language correctly is not apparent from the comparison of English pre-test and post-test results

These facts caused us to be particularly interested in the 334 students officially enrolled in both our English and our mathematics courses. Of this group, 183 returned both English pre-tests and mathematics pre-tests for scoring. We were particularly interested in determining whether these pre-test scores would indicate any relationship between students' pre-course ability to deal adequately with English and with mathematics. The table from which the correlation of these two sets of test scores was computed appears below:

RELATIONSHIP BETWEEN MATHEMATICS AND ENGLISH PRE-TEST SCORES
(Total Sample, 183)

English	Mathematics Scores						
Scores	43--49	36--42	29--35	22--28	15--21	8--14	0--7
60--69			1				1
50--59				1		2	
40--49				8	6	2	
30--39	2	5	11	11	6	11	4
20--29	2	13	21	12	12	7	11
10--19	4	7	8	2	3	3	1
0--9	1	1	1	1	1		1

The correlation in this instance is a negative .22 and is not significant.

A group of 76 individuals completed pre-tests in both courses and, in addition, returned at least one post-test for scoring in time for its inclusion in our analysis of data. The relationship between this group's score gains or losses from English pre-test to post-test to its gains or losses from mathematics pre-test to post-test is shown below:

RELATIONSHIP BETWEEN SCORE GAINS OR LOSSES FROM ENGLISH PRE-TEST TO POST-TEST TO SCORE GAINS OR LOSSES FROM MATHEMATICS PRE-TEST TO POST-TEST (Total Sample, 76)

	Mathematics, Gain	Mathematics, No Change	Mathematics, Loss	Mathematics, No Post-test Returned
English, Gain	26	1	4	3
English, No Change			3	
English, Loss	19	3	12	3
English, No Post-Test Returned	2			

An Unsuccessful Attempt at Comparisons

The summer television office has available University of Illinois Rhetoric Placement Test results for 33 English television-course students who took the English pre-test and who enrolled this fall as freshmen at the Chicago Undergraduate Division. It also has available Mathematics Placement Test results for 27 of its pre-tested television students in mathematics now enrolled at the Chicago Undergraduate Division. However, variations in cutting scores make comparison of placement-test scores with pre-test and post-test scores impracticable.

An Evaluation

In general, the college-preparatory mathematics course seems, on the basis of the test results presented, to have attracted an audience of the anticipated academic ability and to have produced positive changes in this group's understanding of and ability to apply basic mathematical concepts.

In the English course, a much more linguistically able group than was anticipated seems to have enrolled. Little change was noted from beginning to end of the course with regard to this group's ability to handle the English language correctly as measured by the pre-test and post-test. It is probable that this la[illegible] of significant change is due, at least in part, to the course's being designed for a less able audience than the one which actually enrolled.

In the case of future presentations of such a course, it would seem advisable to upgrade the level of the English course and/or to discover methods of motivating less able students to enroll and to continue in the course.

This year's experience also points to the advisability of making several changes with regard to testing:

1. If funds are available, centralized and supervised pre-testing and post-testing seem indicated. Last summer's home testing offered no safeguard against students' receiving outside help. In English particularly, a well-educated relative or a good dictionary could easily invalidate test results.

2. Incorporating a theme into the English testing situation would give a more complete, and perhaps more realistic, picture of the student's ability to use the language than it is possible to gain from a multiple-choice test alone.

3. If possible, it would be wise to use pre-test and post-test forms which are statistically comparable to the forms of the University Placement Tests to be used in placing entering freshmen at the University the following fall.

4. Student motivation to continue in the course might be increased if at least two tests to be worked at home and graded by the University were given students within the period of time when television classes were actually being broadcast. Except for a small number of individuals who took advantage of personal conferences with instructors, the student body had no interaction with the University between the middle of June and the end of August -- the times when pre-tests and post-tests were taken.

In addition, our testing results point to a need to learn more than we now know about the socio-economic backgrounds and past academic performances of our enrolled student body. Although, as indicated in the following section, we have collected a considerable amount of data about our students regarding sex, age, date of high-school graduation, high school attended, and subjective response to the courses, we do not have data on father's occupation, high-school grade point, and other information which might help to explain some of the unexpected aspects of our test results.

V

DATA ABOUT OUR STUDENT BODY AND ITS SUBJECTIVE RESPONSE TO THE COURSES OFFERED

Make-up of Officially Enrolled Student Body

Not only our general desire for information but also the unusual results in the English course (particularly the high percentage of individuals placing in the non-remedial class on the pre-test) made us feel it important to learn as much as raw data, available personnel, and time would allow regarding the individuals officially enrolled in the course.

High-School Graduation Dates of Students

The table below gives an indication of the high-school graduation dates of our students:

High-school graduation dates of students who listed dates and who took at least one college-preparatory test (Total sample, 720 individual students; 916 individual course enrollments)

Dates	English Only	Mathematics Only	Both	English Total	Mathematics Total
1910-1914	2	0	0	2	0
1915-1919	1	1	1	2	2
1920-1924	2	2	2	4	4
1925-1929	4	7	0	4	7
1930-1934	3	2	2	5	4
1935-1939	3	6	3	6	9
1940-1944	8	3	1	9	4
1945-1949	8	4	5	13	9
1950-1954	6	5	2	8	7
1955	3	0	0	3	0
1956	4	2	3	7	5
1957	10	1	2	12	3
1958	237	74	122	359	196
1959	38	25	29	67	54
1960	8	25	16	24	41
1961	4	28	4	8	32
1962	1	0	0	1	0
1963	0	1	0	0	1
Totals	342	136	192	534	378

Our figures indicate that, of this sample, 79.59 per cent of the English students and 66.14 per cent of the mathematics students had graduated in 1958 or planned to graduate in 1959. Unexpectedly high percentages (20.41 per cent of the English students and 33.86 per cent of the mathematics students) apparently were using our courses for purposes other than fairly-immediate college preparation.

This knowledge led us to break down our enrolled student body into three groups: those graduating in 1958-59, those graduating before 1958, and those graduating after 1959. The table on the following page gives an indication of how these three groups compared on pre-tests and post-tests in mathematics.

MATHEMATICS TEST RESULTS BY CUMULATIVE PERCENTAGES, BROKEN DOWN BY GRADUATION DATES LISTED ON ENROLLMENT FORMS

Sample 1: Pre-test scores for all individuals taking that test. (Total group, 383; 1958-1959 graduates, 261; individuals graduating before 1958, 51; individuals graduating after 1959, 71.)

Sample 2: Pre-test and post-test scores for individuals taking both tests. (Total group, 134; 1958-1959 graduates, 99; individuals graduating before 1958, 15; individuals graduating after 1959, 20.)

Scores	Cumulative percentages for total group	Cumulative percentages for group graduating in 1958 and 1959	Cumulative percentages for group graduating before 1958	Cumulative percentages for group graduating after 1959
Sample 1, Pre-test				
	N = 383	N = 261	N = 51	N = 71
0 -- 7	9.74	10.24	21.57	1.41
8 --14	25.93	27.04	35.29	19.75
15--21	45.52	45.89	53.82	45.10
22--28	69.04	60.64	78.43	81.71
29--35	86.53	81.54	90.19	95.79
36--42	96.19	95.88	92.15	98.61
43--49	100.00	100.00	100.00	100.00
Sample 2, Pre-test				
	N = 134	N = 99	N = 15	N = 20
0 -- 7	6.72	7.27	13.33	0.00
8 --14	19.41	18.38	20.00	25.00
15--21	34.33	31.51	46.67	40.00
22--28	58.96	53.73	53.33	90.00
29--35	82.09	77.97	86.67	100.00
36--42	92.54	91.10	93.33	
43--49	100.00	100.00	100.00	
Sample 2, Post-test				
0 -- 7	1.42	2.02	0.00	0.00
8 --14	9.62	10.10	0.00	15.00
15--21	22.29	22.22	20.00	25.00
22--28	40.20	37.37	40.00	55.00
29--35	62.59	60.60	60.00	75.00
36--42	90.95	89.89	86.67	100.00
43--49	100.00	100.00	100.00	

Below is a table giving a similar breakdown for the English course:

ENGLISH TEST RESULTS BY CUMULATIVE PERCENTAGES, BROKEN DOWN BY GRADUATION DATES LISTED ON ENROLLMENT FORMS

Sample 1: Pre-test scores for all individuals taking that test (Total group, 573; 1958-1959 graduates, 463; individuals graduating before 1958, 75; individuals graduating after 1959, 35.)

Sample 2: Pre-test and post-test scores for individuals taking both tests. (Total group, 221; 1958-1959 graduates, 185; individuals graduating before 1958, 27; individuals graduating after 1959, 9.)

Scores	Cumulative percentages for total group	Cumulative percentages for group graduating in 1958 and 1959	Cumulative percentages for group graduating before 1958	Cumulative pe centages for group graduat after 1959
Sample 1, Pre-test	N = 573	N = 463	N = 75	N = 35
70--79	.17	0.00	1.33	0.00
60--69	.69	.43	2.66	0.00
50--59	2.26	1.72	5.33	2.86
40--49	11.16	11.01	10.66	14.29
30--39	39.95	38.87	38.66	57.15
20--29	81.48	82.23	73.33	88.58
10--19	96.66	97.40	90.66	100.00
0 -- 9	100.00	100.00	100.00	
Sample 2, Pre-test	N = 221	N = 185	N = 27	N = 9
70--79	0.00	0.00	0.00	0.00
60--69	.45	.55	0.00	0.00
50--59	1.81	1.63	3.70	0.00
40--49	9.95	10.28	3.70	22.22
30--39	40.27	40.01	29.63	66.66
20--29	76.02	77.31	62.96	88.88
10--19	95.93	97.31	85.18	100.00
0 -- 9	100.00	100.00	100.00	
Sample 2, Post-test				
70--79	0.00	0.00	0.00	0.00
60--69	0.00	0.00	0.00	0.00
50--59	3.12	3.79	0.00	0.00
40--49	14.42	13.52	29.62	33.33
30--39	38.85	38.38	59.25	77.77
20--29	72.78	74.06	74.00	88.88
10--19	92.69	95.17	100.00	100.00
0 -- 9	100.00	100.00		

How Test Results of the Three Graduation Groups Differed

In mathematics, the group graduating before 1958 showed the greatest percentages of extremely high and low scores on the pre-test total sample. The Sample 2, Pre-test results for this group seem to indicate that a sizeable proportion of those individuals making extremely low initial scores dropped out prior to the end of the course as did a small percentage of high-scoring individuals. At the end of the course, this group showed no extremely low scores but a larger percentage of high scores than existed in either of the other two groups.

The group graduating after 1959 showed the smallest percentages of both extremely high and extremely low scores in the pre-test total sample. It continued to show the smallest percentages of extremely high scores throughout the course. However, this group ended the course with the largest percentage of low scores.

The 1958 and 1959 graduates held a fairly consistent middle ground between the other two groups throughout the course. The single exception existed under Sample 2, Pre-test where this group was the one with the greatest percentage of extremely high scores. This advantage, however, was lost on the post-test to the older student group.

The total pre-test situation in the English course was quite similar to that in mathematics, with the group graduating prior to 1958 showing the largest percentage of extreme scores and the group graduating after 1959 showing the smallest. The situation varied somewhat with regard to the pre-test scores for those 221 individuals also taking the post-test. Extremely low scores are not present in the Sample 2, Pre-test scores of the group graduating prior to 1958 although this group continues to show the largest percentage of individuals making extremely high scores. The high-score advantage of this older group is lost, however, on the post-test where 1958 and 1959 graduates show both the largest percentages of extremely high and of extremely low scores. On all three sets of test results, those individuals graduating after 1959 showed, with fair consistency, the fewest extremes in scores.

Sex of Officially Enrolled Students

The only indication our data gave us regarding a student's sex was his first name. After checking first names and setting as a second criterion the student's having taken at least one college-preparatory test, we were able to assemble a total sample of 739 individual students and 939 individual course enrollments. The table below indicates the results of this particular analysis:

Sex	English Only	Mathematics Only	Both	English Total	Mathematics Total
Male	151	98	117	268	215
Female	204	86	83	287	169

In the case of the English course, 48.29 per cent of the students in this particular sample were boys while 51.71 per cent were girls. In the case of the mathematics course, 55.99 per cent were boys, and 44.01 were girls.

Where Our Officially Enrolled Students Came From

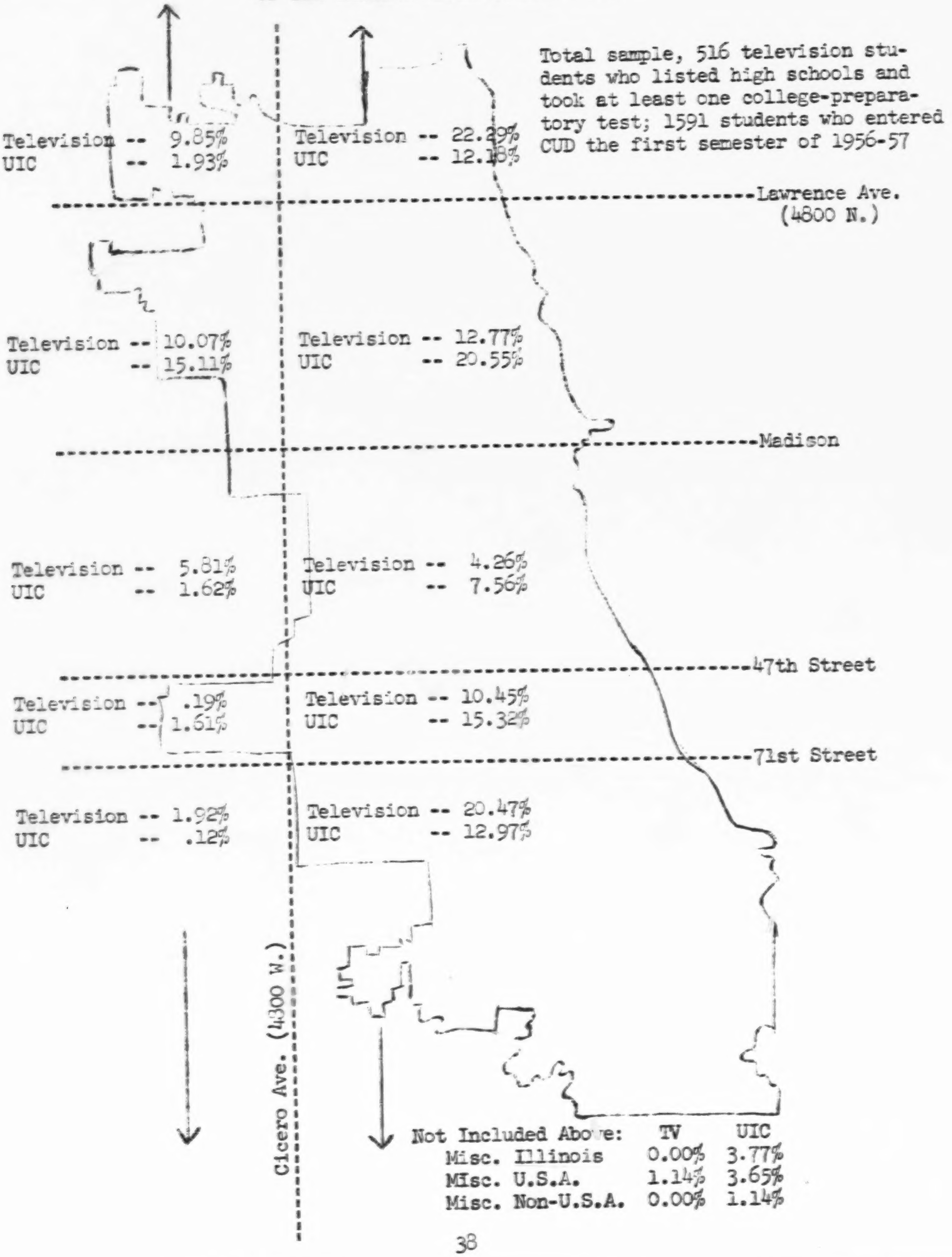
A total of 516 individual students who took at least one mathematics or English test also filled in a blank on the enrollment form requesting a listing of the high school which each had attended. This allowed us to determine and list the number of students coming from each high school in the metropolitan area and, by using a comparable listing of the number of Chicago Undergraduate Division students coming from each high school, we could make percentage comparisons of the two groups. By plotting the schools geographically, we could get a reasonable estimate for each group of the percentages of students coming from the various portions of the metropolitan area.

Results of this procedure appear on the map on the following page. It is interesting to note that 54.53 per cent of the television students as opposed to 27.20 per cent of the Chicago Undergraduate students came from areas north of Lawrence Avenue and south of 71st Street. In the areas between Lawrence and 71st, only the western suburban area between Madison and 47th Street supplied a greater percentage of television students than of CUD students. Here, the percentages were 5.81 per cent of the television student body as opposed to 1.62 per cent of the CUD student body.

From other portions of this central section of the metropolitan area, the Chicago Undergraduate Division obtained 60.15 per cent of its students, whereas the television course sample gained only 37.74 per cent of its student body from this area.

It is possible that the above data gives us at least a clue to the reasons behind the unusually high scores obtained by the majority of those students taking the English pre-test. Many of the outlying portions of the metropolitan area -- particularly those to the north and northwest -- tend to have a population somewhat higher on the socio-economic scale than does the heart of the city. As we have seen, twice as large a percentage of our television students as of CUD students came from outlying areas to the north and south (and well over twice as many came from the north and northwest areas). It is quite possible, therefore, that our student body self-selected itself from a group in which families tended to be college and achievement oriented and in which good English usage was normally more prevalent in the home than would be the case with the usual Chicago Undergraduate Division student population.

COMPARABLE PERCENTAGES OF TELEVISION STUDENTS AND CHICAGO UNDERGRADUATE DIVISION STUDENTS WHO ATTENDED HIGH SCHOOL IN VARIOUS PORTIONS OF THE CHICAGO METROPOLITAN AREA


Television -- 9.85%
UIC -- 1.93%
Television -- 22.29%
UIC -- 12.18%
Lawrence Ave. (4800 N.)
Television -- 10.07%
UIC -- 15.11%
Television -- 12.77%
UIC -- 20.55%
Madison
Television -- 5.81%
UIC -- 1.62%
Television -- 4.26%
UIC -- 7.56%
47th Street
Television -- .19%
UIC -- 1.61%
Television -- 10.45%
UIC -- 15.32%
71st Street
Television -- 1.92%
UIC -- .12%
Television -- 20.47%
UIC -- 12.97%
Cicero Ave. (4300 W.)

Total sample, 516 television students who listed high schools and took at least one college-preparatory test; 1591 students who entered CUD the first semester of 1956-57

Not Included Above:	TV	UIC
Misc. Illinois	0.00%	3.77%
MIsc. U.S.A.	1.14%	3.65%
Misc. Non-U.S.A.	0.00%	1.14%

Another interesting implication of this data is that while the choice of the Chicago Undergraduate Division as the college a student will attend is somewhat dependent upon easy transportation from where he lives to the school, this is not the case in choosing to enroll in a television course of the type we offered last summer.

Questionnaire Results

In a last-minute effort to get additional information about our officially enrolled student body and its reactions to our courses, we prepared within the final week or two of the broadcast period a very informal questionnaire. This was mailed to all 1,019 students enrolled in the courses.

A total of 366 individual students filled out and returned the questionnaires in time to have their answers included in the results which follow. (Tests and questionnaires were continuing to come one by one into the summer television office as late as November 10.) Breaking down this response to the questionnaire further, the number of students responding by course was as follows:

142 students answered questions only about English.
100 students answered questions only about mathematics.
124 students answered questions about both English and mathematics.

Time did not permit us to contact or to get questionnaire answers from individuals who did not voluntarily fill out and return questionnaires.

Points at Which Questionnaire Sample is Most Apt To Be at Variance with Total Course Enrollment Sample

Because no effort was made to contact individuals who did not voluntarily return questionnaires, it seems likely our responses are representative only of that approximate one-third of the student body most interested in the course.

A cross check of ages listed on the questionnaire and of high-school graduation dates given on the pre-test record cards indicate that the questionnaire may contain a larger proportion of individuals not taking the course for fairly-immediate college preparation than does the group completing the pre-test.

29.32 per cent of those individuals answering the English items on the questionnaire were other than 17 or 18 years of age.

44.05 per cent of those individuals answering the mathematics items on the questionnaire were other than 17 or 18 years of age.

20.41 per cent of the group taking at least one college-preparatory English test listed graduation dates other than 1958 or 1959.

33.86 per cent of the group taking at least one college-preparatory mathematics test listed graduation dates other than 1958 or 1959.

Ages of Individuals Answering Questionnaire

A more detailed breakdown of the ages of individuals answering and returning the questionnaire appears in the table below. A total of 357 students listed their ages on the questionnaire and are included in the sample below.

Age	English Only	Mathematics Only	Both Courses	Total English	Total Mathematics
12	0	1	0	0	1
13	2	0	0	2	0
14	1	6	2	3	8
15	2	17	5	7	22
16	8	8	10	18	18
17	47	18	45	92	63
18	49	19	42	91	61
19	3	2	5	8	7
20	0	0	0	0	0
21-25	2	4	2	4	6
26-30	6	3	2	8	5
31-35	3	3	2	5	5
36-40	0	4	1	1	5
41-45	3	3	5	8	8
46-50	6	4	2	8	6
51-55	1	2	2	3	4
56-60	0	4	1	1	5
Totals	133	98	126	259	224

Responses to other questionnaire items are included on the next five pages of this report.

Responses on Questionnaire Items

1. How did you find out about these courses?

A.	Through my high school	208
B.	From subway posters	1
C.	Over Channel 11, WTTW	74
D.	From Chicago daily newspapers	46
E.	Through smaller community newspapers	5
F.	Through the college I plan to attend	54
G.	From a friend	23
H.	Other	15

2. Why did you take these courses?

A.	To prepare for college this fall	216
B.	To help with high-school courses coming up	50
C.	To review materials I once knew	127
D.	To get new knowledge	82
E.	Other (unspecified)	9
	To prepare for college next fall	4
	For teaching materials	1

3. If you plan to attend college this fall, list the college:

University of Illinois, CUD	52
University of Illinois, Urbana	19
University of Illinois, unspecified	29
Loyola	18
Chicago City Junior Colleges	18
Northern Illinois	12
Roosevelt	6
Illinois Institute of Technology	5
Elmhurst	4
Michigan State	4
Morton Junior College	4
University of Chicago	4
DePaul	3
Indiana University	3
Purdue	3
St. Xavier	3

Each of the following schools was listed by two students as the college they planned to attend: Chicago Teachers College, Cornell, Indiana University Extension (Gary Center), Iowa State College, Marquette, North Park, Northwestern, Rosary, St. Procopius.

Each of the following schools was listed by one student as the college he planned to attend: Barat, Beloit, Bradley, Christian Bros., Colorado, Columbian Prep., De Pauw, Dubuque, Drake, Illinois State Normal, Kalamazoo, Knox, Lake Forest, Lawrence, Lewis, Lincoln, Mundelein, New Mexico, National College of Education, Rensselaer, St. Ambrose, St. Olaf, St. Mary's, Trinity, Valparaiso, Williams, Wisconsin.

4. Approximately how many television broadcasts did you watch?

ENGLISH		MATHEMATICS	
A. 0 to 10	26	A. 0 to 10	28
B. 10 to 20	70	B. 10 to 20	55
C. 20 to 30	106	C. 20 to 30	78
D. 30 or more	75	D. 30 or more	70

5. Approximately how many of the textbook assignments did you read?

ENGLISH		MATHEMATICS	
A. 0 to 10	81	A. 0 to 10	68
B. 10 to 20	76	B. 10 to 20	63
C. 20 to 30	77	C. 20 to 30	58
D. 30 or more	39	D. 30 or more	39

6. Approximately how many of the assigned exercises did you work?

ENGLISH		MATHEMATICS	
A. 0 to 10	87	A. 0 to 10	70
B. 10 to 20	63	B. 10 to 20	65
C. 20 to 30	58	C. 20 to 30	46
D. 30 or more	36	D. 30 or more	37

7. Rate the way you feel about this course generally:

ENGLISH		MATHEMATICS	
A. Excellent	90	A. Excellent	113
B. Good	120	B. Good	92
C. Fair	47	C. Fair	23
D. Poor	9	D. Poor	3
E. Very poor	5	E. Very poor	1

8. Rate the way you feel about the speed at which the material was presented:

ENGLISH		MATHEMATICS	
A. Much too rapidly	1	A. Much too rapidly	7
B. Too rapidly	16	B. Too rapidly	35
C. About right	186	C. About right	133
D. Too slowly	53	D. Too slowly	45
E. Much too slowly	17	E. Much too slowly	7

9. How do you rank the text reading assignments in terms of difficulty?

ENGLISH		MATHEMATICS	
A. Very difficult	0	A. Very difficult	9
B. Difficult	18	B. Difficult	61
C. About right	177	C. About right	130
D. Easy	56	D. Easy	19
E. Very easy	12	E. Very easy	3

10. How would you rank text reading assignments in terms of interest?

ENGLISH		MATHEMATICS	
A. Very interesting	32	A. Very interesting	29
B. Interesting	95	B. Interesting	84
C. Average	112	C. Average	92
D. Dull	19	D. Dull	21
E. Very dull	0	E. Very dull	1

11. How would you rank exercises in terms of difficulty?

ENGLISH			MATHEMATICS		
A.	Very difficult	3	A.	Very difficult	6
B.	Difficult	51	B.	Difficult	55
C.	About right	168	C.	About right	128
D.	Easy	47	D.	Easy	20
E.	Very easy	8	E.	Very easy	4

12. How do you rate your instructor for this course?

ENGLISH			MATHEMATICS		
A.	Excellent	118	A.	Excellent	144
B.	Good	75	B.	Good	62
C.	Fair	55	C.	Fair	15
D.	Poor	11	D.	Poor	5
E.	Very poor	9	E.	Very poor	0

Indicate reason for above choice on lines below:

ENGLISH	MATHEMATICS
Favorable comments about Dr. Johnson emphasized his planning and organization of course materials, his presentation of new ideas regarding his subject matter, his humor, interesting examples, and originality.	Favorable comments about Mr. Murphy dealt with his thoroughness, his clarity of explanation, his command of the English language, his "cool, calculating" way of thinking, his enthusiasm for his subject matter, his humor, and his ability to give the course a personal touch.
Unfavorable comments dealt with repetitiveness, nervousness, voice pitch, the remnants of a southern accent, and the elementary level of his presentation.	Unfavorable comments about Mr. Murphy dealt with the rapidity of his presentation (and, at least in one instance, its slowness), with the feeling he might be unsure of himself and not let his personality come across.

13. How do you think your post-test score will compare with your pre-test score?

ENGLISH			MATHEMATICS		
A.	Higher	111	A.	Higher	117
B.	About the same	107	B.	About the same	67
C.	Lower	11	C.	Lower	9

14. Before taking this course, how did you rank yourself in this subject in comparison with others in your age and education group?

ENGLISH			MATHEMATICS		
A.	Above average	54	A.	Above average	44
B.	Average	156	B.	Average	115
C.	Below average	52	C.	Below average	64

15. In general, do you think that signs, charts, blackboard work, etc., used in this course were helpful?

ENGLISH			MATHEMATICS		
A.	Yes	215	A.	Yes	205
B.	No	15	B.	No	11

16. Rate television reception over Channel 11 during these courses.

A.	Excellent	123
B.	Good	141
C.	Fair	68
D.	Poor	23
E.	Very poor	8

17. How do you feel studying by television compares with your classroom experiences?

A.	Prefer classroom learning experience	207
B.	Prefer learning by television	42
C.	Believe they are about equal	78
D.	Other	17

18. If the University were to present these courses again during the summer months, what days in the week do you believe would be most convenient for the audience? (Mark three.)

A.	Monday	273
B.	Tuesday	201
C.	Wednesday	283
D.	Thursday	236
E.	Friday	69

19. If the University were to present these courses again during the summer months, what evening hours do you feel would be the most convenient? (Mark two in order of preference, using "1" for the first choice and "2" for the second choice.)

FIRST CHOICE		
A.	6:00 to 7:00	101
B.	6:30 to 7:30	110
C.	7:30 to 8:30	90
D.	8:30 to 9:30	24
E.	9:30 to 10:30	12
F.	10:30 to 11:00	4
G.	Other	20
SECOND CHOICE		
A.	6:00 to 7:00	28
B.	6:30 to 7:30	109
C.	7:30 to 8:30	67
D.	8:30 to 9:30	45
E.	9:30 to 10:30	28
F.	10:30 to 11:00	8
G.	Other	21

20. Have you ever taken a course over television before?

A.	Yes	29
B.	No	317

21. Would you take courses of this type over television again?

A.	Yes	283
B.	No	41

22. What did you like least about this course?

ENGLISH MATHEMATICS

Individual comments on this item were of interest but varied widely, and no clear patterns of reaction appear in the results.

23. What did you like best about this course?

ENGLISH MATHEMATICS

Individual comments on this item were of interest but varied widely, and no clear patterns of reaction appear in the results.

24. What other college-preparatory courses would you like to see presented?

Chemistry	50	History	23
Physics	29	U. S. History	17
Biology	28	Ancient History	11
Physical Science	13	Political Science	8
Science (unspecified)	12	Social Science	7
Physiology	3	Sociology	3
Language	19	Psychology	16
Spanish	10		
French	8	Trigonometry	17
Latin	6	Mathematics (unspec.)	14
Russian	5	Plane Geometry	10
German	2	Solid Geometry	8
		Slide Rule	2
American Literature	5	Calculus	3
Humanities	4	College Algebra	2
College-prep English, Advanced	3	Analytic Geometry	2
Grammar	3	Philosophy	4
World Literature	2	Logic	3
Vocabulary	2	Semantics	2
Journalism	2		
Theme and Composition Writing	2	Accounting	4
Rhetoric	2	Shorthand	3
		Arts	2
		Music	2
		Dramatic Arts	2

Each of the following courses was listed by one student as a course he would like to see presented: Bookkeeping, American Government, Agriculture, Public Speaking, Current Events, Pre-engineering Lectures, World History, Geography, College-preparatory English, General Information, Engineering Drawing, Geology, English Literature, International Law, Italian, Descriptive Geometry, Photography, Training for Self-employment, Technical Drawing, Full College Credit Work, Painting, Drawing, Sculpture, Poetry, Dancing, Language Reviews, Basic College Courses, Statistics, Algebra 4.

Other Indications of Audience Response

Requests for English Mailing Pieces

During the last weeks of the English course, Dr. Johnson offered to anyone in his audience who wrote in requesting it, a set of mimeographed directions for determining punctuation from the pitch-pause patterns of the spoken sentence.

One hundred and forty persons wrote in for this mailing piece, and a number of others phoned in their requests. A check of the names on the 140 write-in requests against our official enrollment record indicated that 46 of those individuals requesting the mailing piece were actually enrolled in the course while 94 were apparently watching without having signed up for the course and without securing the study materials which would allow them to do the assignments designed to accompany the broadcast lectures.

Fan Mail

Throughout the summer, unsolicited mail came from a variety of individuals, some of whom were officially enrolled, some of whom were watching without enrolling. The preliminary report prepared in this office in July quotes from a sampling of this mail, and such quotations will not be repeated here. Comments ranged from the highest praise to requests that instructors slow down or correct the pronunciation of certain words.

Our mail indicates that a number of high-school and college educators were following the courses for their own edification and that generally they were pleased with what they saw. The presidents of Hinckley and Schmitt and Wycoff Associates wrote in to express their approval of the mathematics course. Several foreign-born persons watched the English course in order to improve their use of the language. At least one married couple worked out a system in which the wife enrolled in the English course, the husband in the mathematics course. A stenographer who prided herself in her English wrote in to tell Dr. Johnson she enjoyed his course as did an invalid confined to her home. A 49-year-old grandmother who was majoring in English wanted to take the course but found her local television station was not carrying it. Several individuals in similar situations wrote to ask if it would be profitable for them to order the study materials even though they could not watch the broadcasts. A man who planned to teach in the future wrote to say that he had paid particular attention to Mr. Murphy's presentation and commended him for it.

Some Suggestions

We have already suggested specific changes which might be made in testing procedur if similar courses are presented on television in the future. The following secti will deal with: 1.) improvements in collecting data about the nature and response of future audiences, and 2.) questions which could be answered regarding this year audience if additional data were taken from University records and if present data were coded and placed on IBM cards.

Future Measures Which Might Aid in Learning About Audiences and Evaluating Their Responses

As indicated earlier, available time, budget, and personnel did not allow for the planning or executing of over-all, large-scale, formal research into either the nature of our audience or its response to our courses. The small amount of data about the student requested on enrollment blanks and on permanent test-score record cards was requested without reference to any over-all research plan. Both the questionnaire and the English mailing piece were items put before the audience on the spur of the moment. No effort was made to get response on questionnaire items from enrolled students who did not volunteer their answers. No effort was made to learn more about the nature of the apparently large, non-enrolled audience.

With these lacks in mind, the following suggestions are made with regard to any future course planning:

1. Enrollment blanks and/or test record cards should ask for more information about student's academic and family background.

2. Well-planned offers of mailing pieces should be made in both the English and mathematics courses, probably as close to the middle of the broadcast season as possible. An effort should be made to discover inexpensive mailing pieces of a type which will have wide appeal to the course audience involved.

3. Some effort should be made to determine the reactions of that portion of the student body which does not voluntarily return the questionnaires. Personal interviews by phone or face-to-face might be necessary, but this would provide data from the segment of the student body apt to be least satisfied with the course.

4. A modified questionnaire might be sent to those individuals who are not enrolled in our courses but who do write in requesting mailing pieces. Items should be planned to get at the backgrounds of these persons, their reasons for viewing the courses, and why they are not a part of the officially enrolled student body.

Questions Which Might Still Be Answered with Available Data

To date, students' names and addresses and the courses they enrolled in have been coded and placed on IBM cards. Lack of personnel and funds have made it impossible to get other personal data, test results, and questionnaire responses onto the same cards. If this were done, it would be possible to determine the relationship of test scores to the student's age and sex, to the number of broadcasts watched, the number of lessons studied, the number of exercises worked, the student's feelings about the difficulty of the course and speed of presentation, his response to the instructor, the high school he attended, the college he planned to attend, etc.

In addition, if time were available, it would be possible for more detailed study to be made of the 32 college-preparatory English students and the 27 college-preparatory mathematics students who are now enrolled at the Chicago Undergraduate Division. This could be done through the use of data available in the Office of Admissions and Records.

However, in the case of both the above suggestions, some basic questions need to be asked: Would it be wiser, if a similar project is planned for the coming summer, to devote time, funds, and energy to developing a better planned research project for that series of broadcasts. Or, on the other hand, would the facts collected through IBM work and detailed studies of the former television students now attending the Chicago Undergraduate Division be sufficiently helpful in future planning to make the effort involved worthwhile.

VI
COST OF 1958 SUMMER TELEVISION PROJECT

Two budget breakdowns appear on the following pages. The first is a monthly cost breakdown and includes only those items charged against funds for the sale of study packages, funds from the Office of the Dean: Contingency, and funds from Provost Assignment.

The second breakdown is by categories such as Personnel, Study Packages, Publicity and Promotion, Television Production, etc. Expenditures here include not only those charged to the funds indicated above, but also those billed to the Broadcasting Department in Chicago and to Summer Session.

In both instances, certain figures which appear are approximations or are incomplete:

1. Not all student wages have been processed to date.
2. WTTW, Channel 11, has not yet billed the Broadcasting Department in Chicago for all television production and kinescope expenditures made through the station, and, as a result, the Television Production figure includes an approximation of this expected billing from WTTW.
3. The expenditures listed under Report Writing and Research include an approximate figure for the reproductinn of this report. In addition, it is likely that additional funds will be expended under the category, Proposal to U.S. Government.

Not shown on either breakdown are a variety of services given to the project by departments and individuals. Some of these are listed below:

1. Scoring of English pre-tests by the Humanities Division secretary.
2. Scoring of mathematics pre-tests by students for the Mathematics Division.
3. Scoring of English and mathematics post-tests by the Broadcasting Department secretary at the Professional Colleges.
4. Stencil cutting of the English-course request-mailing piece by the Humanities Division secretary.
5. Mailing of the above item by the Humanities Division secretary.
6. Preparation, stencil cutting, and mimeographing of errata sheets for the mathematics problem lists by the Mathematics Division.
7. Use of the ditto machine in the Office of the Executive Dean for reproduction of television shooting scripts.
8. Cutting of stencils for the student questionnaire by Liberal Arts Office personnel.
9. Approximately 120 hours of stencil cutting involved in preparing this report for reproduction -- by the Broadcasting Department secretary.
10. The production of English quizzes by Mrs. Falk S. Johnson for publication in the Chicago Sun-Times Sunday television supplement.

1958 Summer Television -- Income and Expenditures

Expenditures listed include all aspects of the project except the salaries of Dr. Johnson, Mr. Murphy, and Miss Jipson, and the actual production of television programs.

	April	May	June	July-Aug.	Sept.	Oct.-Nov.	Not on budget sheets to date	TOTALS
INCOME								
From course study kits		$ 360.00	$5,530.00	$ 355.00				$6,795.00
From Office of Dean:								
Contingency	$1,000.00							1,000.00
From Provost Assignment	1,000.00							1,000.00
TOTAL INCOME	$2,000.00	$ 360.00	$5,530.00	$ 355.00				$8,795.00
EXPENDITURE								
Wages		$ 400.00	$ 665.90	$ 644.77	$ 135.00	$ 313.52	$ 22.00	$2,181.19
Secretarial		(400.00)	(400.00)	(644.77)	(135.00)	(179.50)	(22.00)	(1,781.27)
Staff, special project			(250.00)					(250.00)
Students			(15.90)			(130.50)	(A small additional sum will appear here.)	(146.40)
Workmen's Compensation						(3.52)		(3.52)
Supplies and Expenses		312.84	943.60	40.33	40.00			1,336.77
Stenographic Services		64.45	845.96	107.12	98.22		105.87	1,221.62
General Stores		17.72	18.50	12.12		12.35		60.69
Travel and Meals for Instructors				32.84	145.48	103.03		281.35
Mailing Costs (Adm. & Rec.)			362.67	67.04	44.00	66.47	6.32	546.50
Thermofaxing							36.90	36.90
Textbook and Kit Materials (Bookstore)			3,648.79		318.55			3,967.34
Tabulating				70.45				70.45
TOTAL EXPENDITURE		$ 795.01	$6,485.42	$ 974.67	$ 781.25	$ 495.37	$ 171.09	$9,702.81
BALANCE		$2,064.99	$1,159.57	$ 539.90	$ -241.35	$ -736.72	$ -907.81	

TOTAL COSTS BY CATEGORIES

CATEGORY	COST	TOTAL COST	SOURCE OF FUNDS
Summer Session salaries for television instructors	$2,890.00		Summer Session and Ford Foundation
Salary for Barbara Jipson from April 1 through Dec. 31	3,835.00		Broadcasting Department
Secretarial Services	1,781.27		Summer Television Funds
Student wages	152.74		Summer Television Funds
Workmen's Compensation and University Retirement	23.85	$8,682.86	Summer Television Funds
TELEVISION PRODUCTION			
Visual aids, properties, art supplies, kinescopes	539.64		Broadcasting Department
Expenses in connection with production	141.46		Broadcasting Department
Food and travel allowance for instructors during weeks of broadcasting and miscellaneous production expense	296.62	977.72	Summer Television Funds
PUBLICITY AND PROMOTION		1,147.25	Summer Television Funds
STUDY PACKAGES		5,332.21	Summer Television Funds (Student Fees)
OFFICE SUPPLIES		66.97	Summer Television Funds
POSTAGE		546.50	Summer Television Funds
REPORT WRITING AND RESEARCH		273.64	Summer Television Funds
PROPOSAL TO U.S. GOVERNMENT		51.76	Summer Television Funds
REFUNDS ON STUDY PACKAGES		30.00	Summer Television Funds
TOTAL COSTS		$17,108.91	

Expenditures from Summer Television Funds to date------------ $9,702.81
Expenditures from Broadcasting Department-------------------- $4,516.10*
Expenditures from Summer Session and Ford Foundation-------- $2,890.00

* $500.00 listed under income from Provost Assignment on the chart on the preceding page came initially from the Broadcasting Department in Chicago also.

APPENDIX A

Reports from Falk S. Johnson
and Kenneth H. Murphy

The work-load reports which follow were submitted by the two television instructors for the college-preparatory project at the request of Dean Harold W. Bailey. They are presented here (in slightly abridged form) because of the insights they give into the problems which instructors face and the processes they go through in preparing and teaching television courses.

Report from Falk S. Johnson

In accordance with your request, I am submitting a description of the work load for the television course in College-preparatory English in the summer of 1958.

I am happy to present this description, for I feel very strongly that the series was planned with a gross underestimation of the amount of work involved in it.

Because I did not keep a record of the time actually spent in preparing for this series, I cannot give you a precise, documented account of the work. I can say, though, that my work consumed more than 60 hours per week during the summer. Even during the last two months of the spring semester my personal work load was that high, though most of it was the result, not of television, but of my other University obligations, with television duties accounting for about a third of that load.

Some idea of how this time was spent can be gained from a more detailed discussion of the chief phases of my work: academic preparation, promotion, and production.

Academic Preparation

The academic preparation included chiefly the preparation of a study guide. Before the study guide could be drawn up, a textbook had to be selected. As you can guess, the selection of a textbook for this television course involved problems which do not exist in the selection of a textbook for class use, chiefly because there had to be, not only explanatory materials, but also exercises with an accompanying answer book which could be released to the general public without jeopardizing the future sale of the book to other institutions. A considerable time was spent in finding such a text-workbook, with an accompanying answer book that the publisher was willing to release.

The academic preparation also included the making out of detailed assignments for thirty-three lessons, with decisions about how much time should be spent on each part of the subject matter of the course: spelling, punctuation, sentence structure, and the like. In addition, the academic preparation included the selection of tests to be given to students before and after the course, and the obtaining of releases for the use of these tests by the general public.

At some points the academic preparations merged with the promotional aspects of the program. That was especially true for the titles picked for the thirty-three lessons -- titles which were intended for future use in the newspaper listings of television programs. Some effort was made to obtain "catchy"titles which might lure in additional listeners from among readers of the newspapers. The preparation of these titles took considerable more time than merely descriptive titles would have taken.

The study guide itself had two main parts. The first was an introduction which offered suggestions on how to get the most out of the TV course. This part contained brief statements about the importance of English, about the general plan of the course, about methods of study in a TV course and about the procedures to be followed in taking the tests.

The second part contained the thirty-three individual assignments. In preparing each assignment, the student was asked to read specified pages in the textbook and to do some written exercises. In a few instances, when no suitable exercise was available in the textbook, original exercises were developed specifically for use in this course and were printed in the study guide itself. Furthermore, the individual assignments occasionally contained such special instructions as "Have your dictionary handy at the time of the telecast."

Promotional Work

The promotional part of the venture centered around leaflets and posters. I prepared at least the first draft of all sections in these materials dealing directly with English and helped with the proofreading of all the materials which included references to the English course. I also helped with the designing and the proofreading of the English study guide.

Furthermore, I did considerable work in connection with the promotion of the course through the newspapers. I had several long conferences about the use of newspaper quizzes to stimulate interest in the program. I supplied information which led to four or five other newspaper stories concerned with the English course -- information about myself, for use in neighborhood newspapers; about my two guests, for use in the metropolitan dailies; and about one of my students, also for use in the metropolitan dailies.

The television quizzes -- three of which appeared in the Sunday Chicago Sun-Times -- contained a direct invitation for readers to listen to the television program. In addition, these quizzes were prepared to deal with the material actually being covered on television -- thus they were almost instructional in their purpose. Because these quizzes were prepared after the telecast got under way, I did not have time to draw them up myself. They were prepared by my wife (at no charge to the University), but I carefully revised and rechecked them before publication. Because a few of the readers disagreed with the published answers, I had to enter into some correspondence as a result of these quizzes.

Perhaps under the heading of promotional activities should come the correspondence which was entailed by the offer to send to listeners mimeographed sheets describing intonational punctuation. Requests for these sheets were often in the form of letters, a dozen or two of which required letters in reply.

Production

Of course the heaviest part of the work load involved, not academic preparation or promotion, but what I have called "production" -- that is, getting ready to go on the air. Even when a person is familiar with the subject matter, he must spend considerable time in adjusting, adapting, and tailoring it for presentation on television.

Each of the thirty-three scripts evolved through at least three and usually four stages, which I want to describe.

First, there was a preliminary outline, which ran for less than a typed page and did little more than list the main topics to be covered in the telecast. All thirty-three of these outlines were prepared before the first telecast, on June 16.

Second came the preliminary script. Its length ranged from about two to thirty pages. This script indicated, not only the main topics to be covered, but also how the topics were to be treated, what visual materials and properties were to be used, and the "route" to be followed in the studio during the telecast. As a rule, one or two dozen visuals were used in each of the thirty-three telecasts. Most of these visual aids -- often in the form of sentences or lists of words -- had to be composed specifically for the telecast, because copyright restrictions prevented the use of ready-made materials. (Written releases were obtained, by correspondence, for the use of some copyrighted materials, the correspondence being carried out by the producer.) In brief, this preliminary script contained all the rough materials out of which the program was to be fashioned. For two or three of the more difficult programs, the script was written out word for word; for most, only a very detailed outline was prepared.

The preliminary script, just described, was then taken to a conference including myself, the producer (Miss Jipson), and the director (Mr. Borg, of Channel 11). At these script conferences the materials in the script were gone over minutely, and the program was considered, not only from the standpoint of academic content and pedagogic effectiveness, but also from the standpoint of staging and photography. Revisions in the preliminary script were made at this conference, which normally occurred at least a week before the program went on the air. These conferences were usually held on Tuesday or (rarely) on Fridays -- days when no telecast occurred.

Numerous production problems were dealt with at the conferences. For example, decisions had to be made, for each visual, about whether it should be in the form of a desk card, a pad sheet, strips to be used on the flannel board, a slide, a "wild" shot, a superimposition, a rear view projection, a "flying" visual, or in the form of a montage shot.

After the conference the third version of the script was prepared, to include the suggestions made by the producer and director. This revised script, as it may be called, was then reproduced (usually by Ditto), and ten copies of it were sent to Channel 11 (as requested) at least a day or two before the telecast.

In every instance there was also a fourth version of the script, though often only one copy or at most three copies were prepared. This was the "final" or "refined" script. It was the script which I had in the studio at the time of the telecast and which the director usually had in the control booth during the telecast.

This script was prepared by me on the day of the telecast; it was a "timed" script, with an indication of the time at which each topic was theoretically to be discussed; it included all the last-minute ideas for the improvement of the telecast. Usually it was briefer than the earlier scripts.

Also on the day of the telecast some of the crucial parts of the script -- for example, the beginnings -- were written out in detail.

At the time that the telecasts began on June 16, preliminary outlines had been prepared for all broadcasts; preliminary scripts had been prepared for ten or fifteen of the broadcasts; revised scripts for three of four broadcasts; and final scripts for one broadcast. During the summer, therefore, work was divided between scripts for "immediate," "intermediate," and "long-range" broadcasts. The preliminary scripts for the last broadcasts were not prepared until two or three weeks before the end of the series.

An understanding of the stages through which the script passed will give a good background for a description of my normal work week during the series of broadcasts. I normally left home at 8:30 or 9:00 each weekday morning, returned home between 9:30 and 10:30 P.M. On broadcast days I worked on the final script at the Pier until 4:00 P.M. or a little earlier, when Mr. Murphy and I and Miss Jipson left for dinner. We were due at the studio at 5:15, later in the summer at 5:30.

From then until the time that I went on the air at 7:30, I dressed, "made up," and went through two "rehearsals." The first was in a conference room at Chanenl 11 and was a back-and-forth discussion of what should be done in each part of the telecast. The second was in the studio itself and included camera shots of all parts of the programs which might present any special difficulty.

After Mr. Murphy's program, which ended at 8:30, there was a "post-mortem" on the English and Mathematics broadcasts -- post-mortems which ran for as much as an hour in the early part of the summer, often for only a few minutes later in the summer.

Since my time on broadcast days was devoted to the "immediate" scripts, my work on the intermediate and long-range scripts had to be done on the other days of the week. Tuesdays were normally consumed by script conferences; Tuesday nights, by the conference period at the Illini Center in the LaSalle Hotel (5-8 P.M.).

I did the work on the intermediate and long-range scripts on Fridays (10-4:30), Saturdays (9-4), and Sundays (2-9).

General Comments

In addition to the duties already outlined somewhat systematically, there was a mass of miscellaneous details which defy neat classification. Here are some samples: correspondence with publishers about books to be mentioned in the course; a trip to Urbana to inspect visual aids used in an English television course there and to get advice from the television teacher there (Harris Wilson); extended conferences with the two guests who appeared on my program; trial runs of the first program at the Pier and at Channel 11 before the series began; kinescoping part of one program, with a detailed critique on the kinescoped performance; answering telephone queries about the course; and so on.

/s/ Falk S. Johnson

Report from Kenneth H. Murphy

In compliance with your request I have prepared this statement of the work load for the television course in College-preparatory Mathematics given during the summer of 1958.

It would be more terse to set forth a tabular sheet (rather than the several pages I am submitting) itemizing hours spent and indicating to what phase of the undertaking they were allocated. But that would indeed be a barren and inarticulate resume. Rather, I would like to narrate my participation (from a work-load vantage point) from its inception, until now.

My part in the project began early in the spring semester (1958). The first of the tri-weekly telecasts was June 16, 1958; the last, August 28, 1958. There was necessarily a very considerable difference in the character of the work involved prior to the first telecast, and subsequent thereto. I shall therefore subdivide much of my report into these two "before" and "after" sections.

The over-all "round-figure" estimate of 60 hours per week is a very conservative one. During the summer, the load was invariably heavier than this -- sometimes substantially heavier. During the spring semester, the extra time spent (time over and above that required to perform all my other University duties) was far in excess of the time made available for that purpose by a reduction of my course load from 12 to 10 semester hours.

Prior to the First Telecast -- Spring Semester

If one were to categorize the work of the sometimes hectic period prior to the first telecast such a classification could comprise: setting up the subject-matter content, preparing the study guide, readying the materials for TV presentations, and miscellaneous.

After "planning" meetings, interviews, consultations, my initial task became that of structuring the subject-matter content for the course and subdividing it into the requisite lessons to be given. It was decided that the material to be covered would be roughly that of Math. 103, with suitable modifications dictated by the nature of the medium, the brevity of telecast time, and the objectives of a college-preparatory project. It was conjectured that the preparedness levels represented by the aggregate of probable enrollees would be highly heterogeneous, but that the greatest number would be at the Math. 103x level. (This assumption proved correct.) The task then was to survey the material usually covered in 70-75 classroom sessions and to condense, modify, and ready it for presentation in 16½ hours of TV. It must be kept simple and slow enough for the viewer to follow; fast moving and complex enough to cover the objectives of the course and provide adequate preparation for college algebra. It must be an abridged treatment, but it must include all the essentials (conceptual and mechanical), maintain continuity, and hold interest.

Breaking the material into 33 telecasts and modifying it so as to be adaptable for TV required many writes and rewrites in outline form and in progressively greater detail of the topics to be covered in each telecast. These outlines were of course the early versions of the scripts -- or the source materials from which the scripts were written.

A study guide had to be prepared. It contained an introduction of about five pages -- information, instructions, suggestions. The main body consisted of 31 pages of study assignments and problem assignments (lists of problems to be solved), lesson by lesson. There were about 680 problems. This was followed by a section containing answers to each problem. Also, a pre-test and a post-test, comparable to our mathematics placement test, was to be prepared (together with answers for scoring).

Mr. Roger Hill assisted with the study guide, pre-test, and post-test. His function was to assemble problems from which to select for inclusion in the study guide, solve the ones selected, assemble problems for possible inclusion in the pre-test and post-test, solve those selected, check all solutions, write up problems and answers into suitable copy for typists, read proof.

I, of course, had to work with him every step of the way on these. I had to have available for him the exact topical content of each lesson and the exact study assignment so that he could compile a suitable problem list. I then checked each problem list, deleting problems, adding problems, replacing problems, to achieve the number, grading, difficulty level, and kind of problem which seemed desirable in the light of what I intended to present on the corresponding telecast. Mr. Hill then took the amended lists, solved the problems, checked the answers, wrote up problems and answers for typist's copy. The same procedure was followed for the pre-test and post-test. We found we had to work together on much of this. We worked many nights to meet the deadline for copy.

I wrote the initial version of the introduction to the study guide. Using this to whatever extent she saw fit, Miss Jipson then wrote the final version. This involved several conferences between the two of us.

In the meanwhile, there was the problem of presentation for each telecast. The condensing, selecting, and modifying of the material itself for each telecast was delicate enough. How exactly to present the material of each lesson on television was by far the most difficult and touchy of all the problems I faced. Some of the imponderables were: speed of actual presentation (as distinguished from pace of course); mathematical level of presentation (as distinguished from mathematical level of topic presented); language level of presentation; extent of detail desirable in expounding or explaining; the "visual aids" problem. The mathematics student at this level must see as well as hear topics developed. The problem of "visual aid" here was not one of merely embellishing something that could have been perceived by audio in order to adapt it to audio-video. We needed visual aids that had instructional value, were compatable with the video medium, and had an interest factor.

The usual classroom methods of presentation clearly would not be adequate. There were enough instances of failure in TV, when these were tried, to silence anyone inclined to dispute the point. Interest must be obtained and kept. Yet I inherently recoiled from a "gadget" or "gimmick" that was mainly an interest-catcher and not an important vehicle of instruction. I wanted this to be TV teaching; not a performance. Voice, poise, manner, sincerity, pace, difficulty level, freshness, variety would all be important factors. One must be always mindful of the probable preparedness, needs, interest, and goals of the composite viewer, and of how to motivate him. The viewers would not comprise a "captive" audience. Any important miscalculation could mean failure for the venture.

There was no one to approach who really had the answers. No one in this geographic area had given such a course on TV. Those who had ventured in mathematics had given a quite different and even more elementary course. I began to seek out such information as was available and to listen to everyone who thought he had a good idea.

I conferred with one gentleman who had given TV courses in mathematics. He was very gracious in trying to be helpful and in offering ideas. I'm afraid I didn't use any of them, but it was nonetheless beneficial to speak with him. I consulted with another man quite important in the educational TV field and who had produced educational films in mathematics. I talked with still another, teaching a TV course in a different subject. (This gentleman advised that I pay no heed to my producer or director, at which point Miss Jipson's admiration for afore-mentioned gentleman took wings and flew out the window.) I spoke with several others in the TV, radio, or educational fields. All had ideas and opinions.

In the last analysis I used none of these ideas. However, I felt I needed to contact as many such persons as I could to be sufficiently acquainted with prevailing opinions, views, experiences, advises, etc., to make my own decisions. Often, those with whose views I could not concur, made me more certain of the correct course to take by their very espousing of some tenet with which I did not agree. It was all part of the growing pains. I thereby hoped to acquire some degree of vicarious maturity -- there was not time (prior to June 16) to acquire any other kind. I tried to be very humble to the medium and to those who knew more than I about it -- yet to weigh very carefully each suggestion before incorporating it into my planning.

My producer (Miss Jipson) and director (Mr. Borg) left to me all decisions regarding subject matter and allowed me to make all final decisions regarding its presentation. However, I continually solicited their criticism, advice, and suggestions.

It was finally decided that of all the visual aids that any of us had been able to conjecture, the only ones whose utility in a presentation of algebra warranted their retention in our program planning were: (1) a three-sided revolving blackboard, each side 6 feet by 30 inches, (2) a pad or flip sheet, 32 inches by 24 inches, (3) an easel card, 14 inches by 11 inches. I began to build my presentations with the idea in mind of limiting my day-by-day, recurring visual aids to these three items.

The topical outline of each of the 33 telecasts was filled in and embellished as completely as was feasible in advance of any actual telecasting. I began a detailed and almost word-for-word sample setup of the first six telecasts. Let me say that we were all well aware that a script should not be written and given word for word, either by reading it or memorizing it. Particularly in mathematics would this be impracticable and next to impossible. But such a sample setup of the early telecasts was undertaken for timing, for testing of the visuals, and to ascertain whether certain of my ideas and developments worked as well on the "firing line" (even though a make-believe one) as on the "drawing board." The timing was always to be a problem. The course content was pared to where essentially every topic that now remained must be covered if possible. In most courses one could fill up each script so as not to run short of material, then expunge during the presentation or cut at the end if the timing required. In this course, if I didn't finish what was intended for a particular telecast, I must begin where I left off at the next one. Integrity in maintaining standards, preservation of continuity, and inclusion of the topics as essentials of the course made this mandatory. A succession of a few miscalculations which could not be repaired by further deletions would soon put me irreparably off-pace and off-schedule. A detailed write-up of the early telecasts for timing helped determine whether I had undertaken the impossible and would have to recast the entire program.

I prepared these and practiced them repeatedly until I had a reasonable conception of what I could actually cover in one telecast -- and what a viewer would and could absorb. (Mr. Hill and some friends who were not mathematicians served as audience guinea pigs.) I then discarded the prepared scripts. They had served their purpose and were of little use for live telecasting -- I didn't want to read them and the wording was now too familiar. I prepared fresh material so that I could leave the actual word choice to the moment of delivery.

By the time of the first telecast the 33 lessons were structured in full outline form; the first six, in detailed outline form with scripts. These and remaining scripts were to always remain fluid and subject to change after each telecast. I had given a dry run before Miss Jipson, Mr. Borg, and Mr. Partridge; another dry run at the station, and a kinescope. I had made several trips to the station.

Intervoven with all this were numerous conferences, phone calls, conversations, and myriad details the totality of which took heavy toll of my time, but the individual significance of which fails to justify their inclusion in this chronicle.

Subsequent to the First Telecast (Summer)

During the eleven weeks of the actual telecasting, my work was sharply different, both in nature and schedule. The schedule of duties was less erratic, more predictable; but it was also heavier, more demanding, more fraught with the tensions inherent in such an endeavor.

I usually arrived at the Pier each weekday (Monday through Friday) between 9:00 and 10:30. During telecast days (M, W, Th) Dr. Johnson, Miss Jipson, and I left for the TV station about 4:00 P.M., eating an early dinner and arriving at the station between 5:00 and 5:30. I was at the station until some time between 9:00 and 10:30 P.M. On Tuesdays, Dr. Johnson and I left for Illini Center about 4:30 P.M. where we were on duty for conferences with students from 5:00 to 8:00 P.M. On Friday evenings I usually worked at the Pier. I also usually worked at the Pier on Saturday and Sunday afternoons and evenings. (The few of these I missed were counteracted by the fact that I then did some of the work at home.) On five weekdays it was usually more than twelve hours from the time I left home until I returned. On the two week-end days I tried to put in about 8 hours per day, one way or another.

By this time script materials were done in full outline form. Any one of the indicated 33 could have been pulled from its folder, written up in final form, and prepared for telecast on short notice. However, it was never expedient to do them in final form in advance. The script numbered 12, for example, reposing in my folder would almost certainly not be precisely what I would need for lesson 12 when that time arrived. This was an inherent by-product of the impossibility of split-second timing of a "non-canned" script, the necessity of completing on the next following telecast any topic not finished on the current one, and the desirability of achieving freshness and spontaneity at all times.

This meant the actual detailed and final scripts must be fluid and I must maintain continuous revision week by week, day by day, of the topics covered, the visuals, the problems and illustrative material, and even of how these were to be treated and presented. For example, five minutes behind schedule on a given lesson might mean the revision of the next lessons to avoid choosing between falling further behind or sacrificing quality of presentation. I made all final revisions and decisions of presentation the day of the actual telecasts. Weekdays were therefore mainly concerned with current telecasts.

Problems to be worked out, illustrative material, topics to be developed had to be selected with great care. The problem must illustrate precisely what I wanted; heed must be paid to its length, its difficulty. (The camera could pick up only a certain area at a time, and a certain proportionality.) Some problems were adaptable to a tight shot; others, to a wide shot. Some were best adapted to blackboard; others to the flip sheet. Some could be pre-solved; most should be solved by me during the telecast. The same considerations must be confronted when dealing with developments of topics of theory or concepts. Revision meant change -- sometimes "chain-reaction" change.

About 30 to 40 easel cards were used. The earlier ones were done on a large bulletin typewriter; the later ones were printed by Miss Jipson.

More than 100 (nearly 120) pad sheets or flip sheets were used on telecasts. I prepared all of these with a felt-tip pen. They had to be done with great care so as to be good enough for televising. This took many hours each week. It was possible for a difficult one to take up to nearly an hour. The cost of haste was a poor job or a slip of the pen requiring the job to be redone. I usually spent the weekends doing the visuals for the coming week, plus preparing final copy for the scripts, and final selection of my illustrative material. With whatever time remained, if any, I worked on improving my presentations.

After arriving at the station on telecast days, I dressed for the telecast, had the make-up applied, had a brief conference with the director and producer. My conferences with the director and producer concerning my script were extremely brief. The time spent on my dry runs before telecast time, almost none; the time spent on testing, lighting and camera angles, almost none. (I am sure they gave me all the time that they felt I personally needed and that my particular program required.) I then went into the studio and set up pre-written (not pre-solved) problems on the blackboard so that time would not be lost in merely copying problems during the telecast. Great attention had to be paid to size, style, legibility, and spacing of letters and figures. A badly written character shows up very prominently.

At about 7:15 P.M. I went into isolation in some vacant room to sit quietly with my thoughts and get into the spirit of the telecast. To me this was more vital than rehearsal. I always left my opening remarks, my closing remarks, and my inspirational remarks to viewers (which I nearly always included) to be studied out at this time. It gave me a spontaneity, a freshness, a vitality that the "too-pat" "too-much-rehearsed" script could not possess -- at least that is the way I felt. I always stepped out of my "isolation" onto the telecast set in something of a self-inspired frame of mind -- a sort of "I've really got something I very much want to say to them tonight" attitude.

After 8:30, I often had phone calls to answer. I had to dress and remove makeup. I then appeared for a post-mortem of varied lengths to discuss the telecast just completed.

In Conclusion

If some of the overtones of this rendition are reminiscent of the wails of one in travail, attribute the phenomenon to faulty linguistic acoustics. I enjoyed every moment of this project, every hour of work, all the inherent "hardships," pressures and tensions that go with taking the work seriously. I would not sell my experience for any price. It was not just a summer job, but something of a crusade into which I put my heart.

Yes, the summer was one of pressure, tension, and hard work. I worked nearly every available hour. The enigmas as to how well it would go -- what would be the reaction of the enrollees, the general viewing public, those in my profession, other colleagues -- these concerns perched consciously upon my shoulders. The reaction of these groups was reward in itself.

Leaving home shortly after breakfast and returning long after the children were in bed, I hardly saw my family. I was with them very little and did not get to take them anywhere all summer, even on weekends. But if we had all known before exactly how it would be, we would have still been "all for it."

If this project is resumed, the experiences of this summer will be priceless. Most of the important things about television can be learned only by "living through them." Next time, there would be comparatively few "unknowns," considerably less pressure and strain, and a somewhat lighter work load. I think, however, if I were to teach the same course again, I would put in almost the same number of working hours. I would capitalize on this summer's experience for the know-how and extra time to improve and refine the course and its presentation.

TV must necessarily be an important factor in education in the future. The question as to how best to adapt it to educational needs and objectives and how best to adapt educational presentations to the characteristics of TV are questions to which answers will surely be found. I hope the University of Illinois will assume leadership in finding them. My interests and efforts are dedicated in this behalf.

The mathematics course proved in my mind that there is a need for and an interest in mathematics by television. The methods, techniques, personality must be different from the classroom. However, topics do not have to be surreptitiously vended under a covering barrage of comedy, platitudes, or childish nonsense to gain and retain interest.

/s/ Kenneth H. Murphy

APPENDIX B

Clerical Operations

The quantity of clerical work involved in this project was startling to all concerned and ought to be considered by anyone contemplating a similar operation. A partial clerical breakdown for our college-preparatory courses appears below:

Envelope and label addressing

Typewritten

693 addressings to high schools for promotional mailings
70 addressings to colleges for promotional mailings
1,353 addressings to students for study-package mailings
1,019 addressings to students for post-test mailings
1,200 addressings to potential students for promotional mailings
241 addressings for errata sheet mailings to students not turning in mathematics post-tests

(We were saved having to do typewritten addressings in the following instances:

1,019 addressings for questionnaire mailings, handled by IBM addressograph
1,334 addressings for test-results mailings, handled by having students themselves fill in name and address on test-report slip which fit into window envelope
100 news releases--Public Relations Office had an addressograph list of this group)

Envelope stuffing

231 3-piece mailings to high-school principals
231 2-piece mailings to high school counselors
30 2-piece mailings to college presidents
30 2-piece mailings to college admissions officers
12 bulk mailings to colleges -- promotional materials
100 news release and brochure mailings to newspapers
381 2-piece mailings, mathematics pre-test results
526 2-piece mailings, English pre-test results
1,019 1-piece mailings, questionnaire
1,019 4- to 7-piece mailings of post-testing materials
241 1-piece mailings of errata sheets to mathematics students not taking pre-test
150 1-piece mailings to individuals requesting pitch-pause punctuation explanation
234 2-piece mailings of English post-test results
144 2-piece mailings of mathematics post-test results

(In addition to these envelope stuffings handled by clerical personnel, the bookstore packed 733 7-piece English packages and 622 6-piece mathematics packages. The commercial printer of our brochure and poster packaged in 231 packages 22,000 brochures and 461 posters.)

Envelope openings and contents sortings

1,000 enrollment-application envelopes (approximate figure)
670 pre-test envelopes (approximate figure)
290 post-test envelopes (approximate figure)
366 questionnaire envelopes

Scoring and tallying

956 pre-tests scored, recorded, reported, and tallied by class interval
378 post-tests scored, recorded, reported
355 post-tests tallied by class interval
366 questionnaires worked over, including the tallying of multiple choice answers and the recording of written answers on completion items
357 age responses tallied
516 schools attended tallied
739 sex-of-student responses tallied
720 high-school graduation dates of students tallied

Alphabetical filing

1,019 application blanks
956 pre-test record cards
378 post-test record cards

Handling of University Forms

Typing requisitions, petty-cash vouchers
Filling in Daily Orders Record (a major clerical operation for a 4-week period at the height of registration)

Editorial typing

1 4-page brochure
1 school poster
1 subway poster
1 5-page introduction to mathematics study guide (Problem lists went to specialized typist in handwritten form.)
2 1-page introductions to tests
1 14-page English study guide
2 1-page test answer sheets

Stencil typing (Ditto and mimeograph)

33 $2\frac{1}{2}$-page English shooting scripts
25 1-page mathematics shooting scripts
1 13-page progress report
1 7-page questionnaire
1 2-page questionnaire
1 3-page pitch-pause punctuation explanation
1 1-page letter to high-school principals
1 1-page letter to high-school counselors
1 2-page news release
1 answer report sheet

1 2-page daily report form
1 3-page mathematics errata sheet
1 1-page IBM code sheet
1 1-page IBM code key
2 1-page announcements to be read at fall mathematics and English placement test sessions
3 1-page explanations of test-grade meanings
1 64-page final report

Other typing

70 letters to college officials
15 permissions letters to publishers (approximate figure)
20 replies from instructors to specific questions raised by individuals (approximate figure)
30 letters personally composed and typed by Mrs. Corty to students inquiring about courses
1 35-page first draft of first half of final report

Phone calls

Answering inquiries about the course and about enrollment procedures (indeterminable number)
Answering calls to set appointments for Tuesday-evening conferences with instructors (indeterminable number)

Miscellaneous activities

Developing code and coding for IBM information on 1,019 students (Work on this remains incomplete.)
Handling enrollment fees amounting to $6,795.00
Bulletin typewriting information on approximately 35 TV display cards
Sorting out from all of this fall's mathematics and English placement tests administered by the Chicago Undergraduate Division those belonging to students who had taken the College-preparatory courses
Performing arithmetic operations necessary in converting tallied materials to percentages
Preparing raw-data lists of all students taking at least one test and noting on it graduation date, school attended, and all test scores